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Universal Dictionary

OF

ARTS, SCIENCES, AND LITERATURE.

PLATES. VOL. III.

HYDRAULICS — NAVAL ARCHITECTURE.

Printed by A. Strahan,
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THE

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1820.

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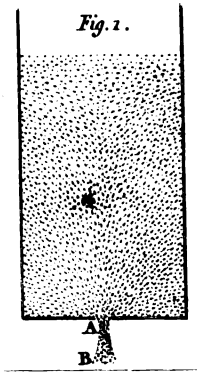

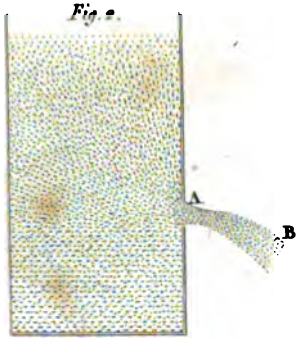

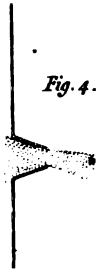

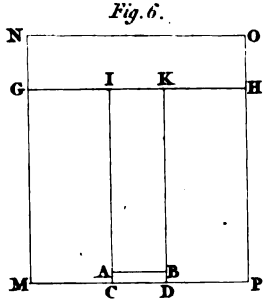

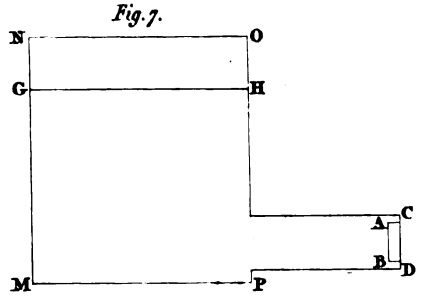

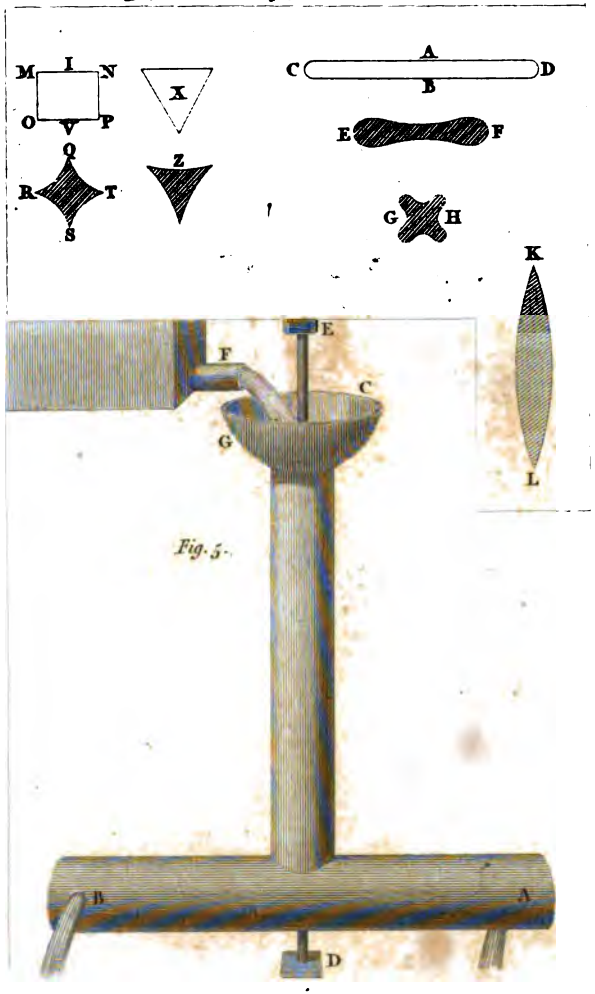

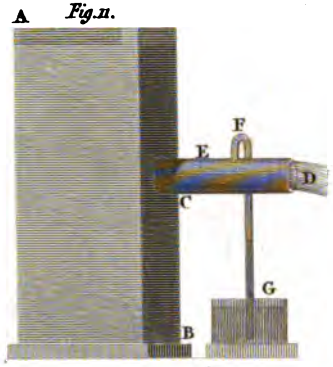

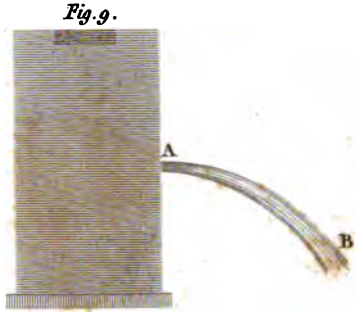

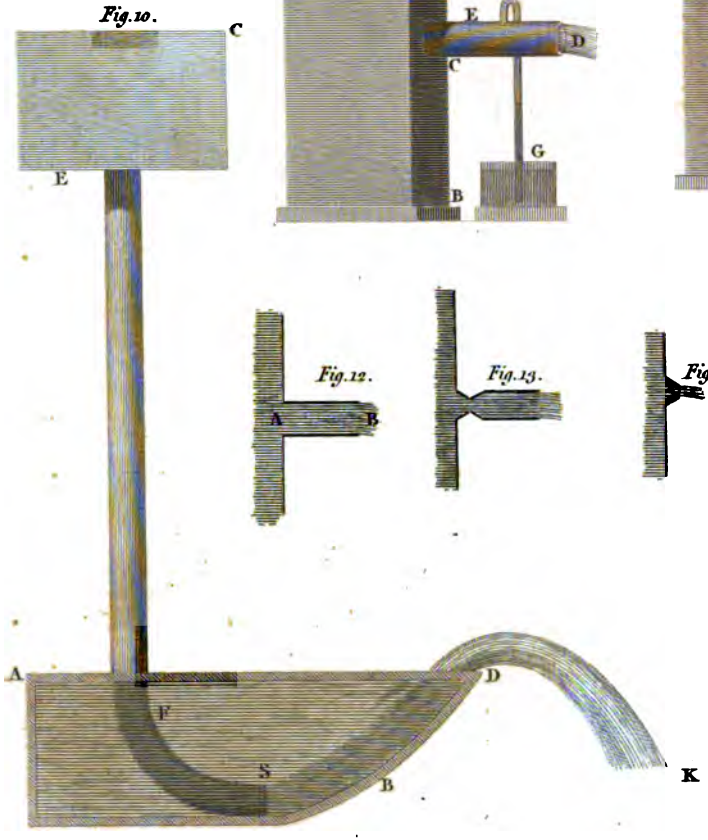

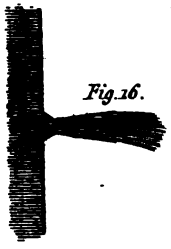

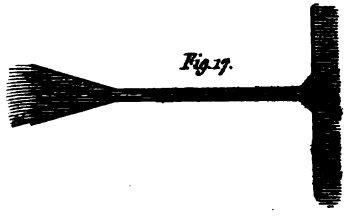

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HYDRAULICS.

DIVING BELL.

Dr. Halley's

Fig. 18.

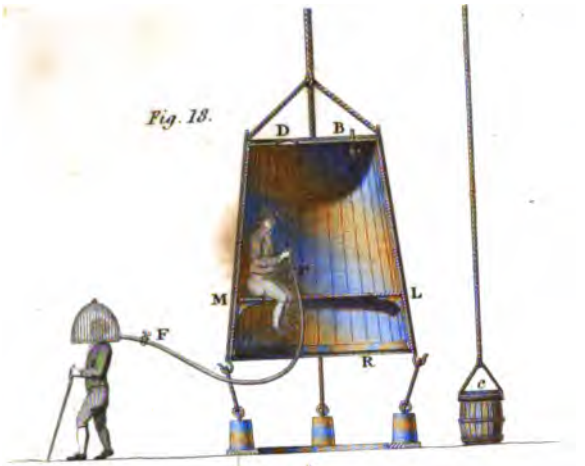
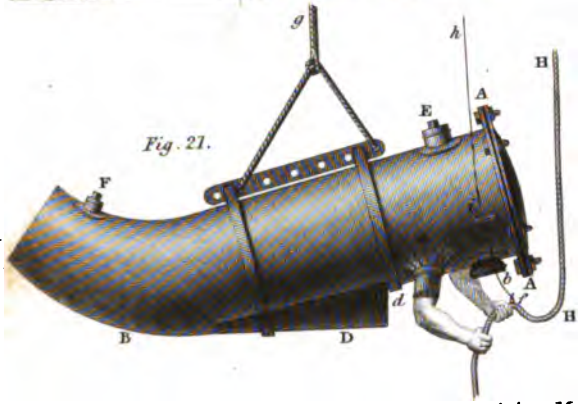
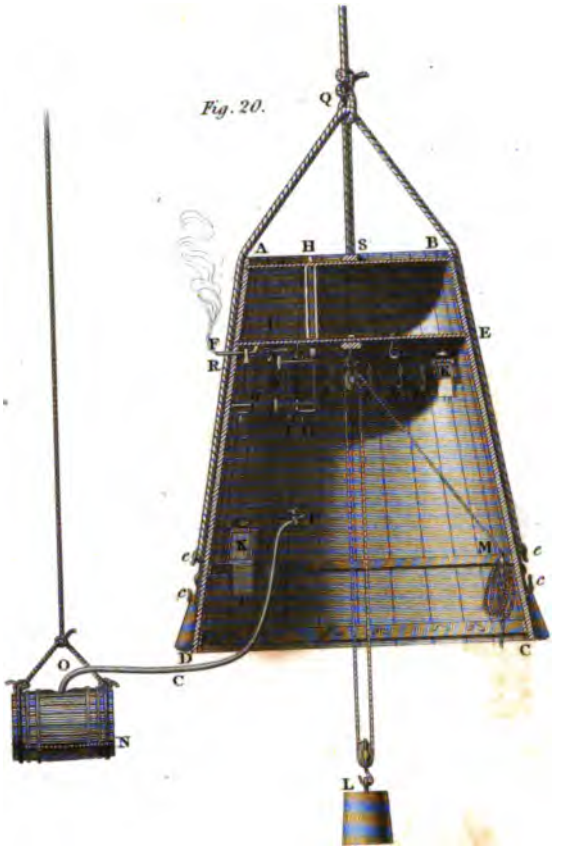


Fig. 21.



Section of Spaldings Diving Bell.

Fig. 20.



Klingerts Diving Machine.

Fig. 22.

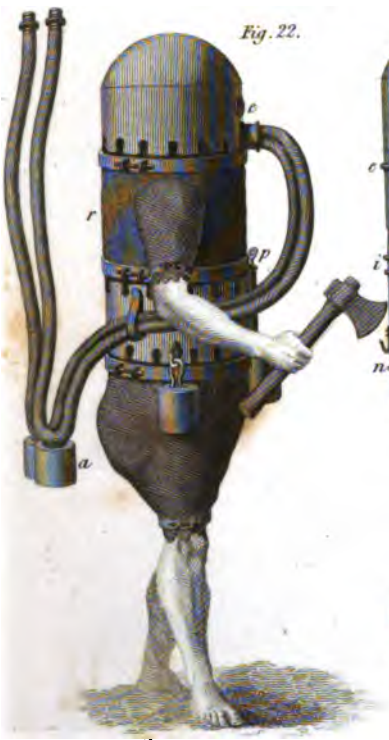


Fig. 23.

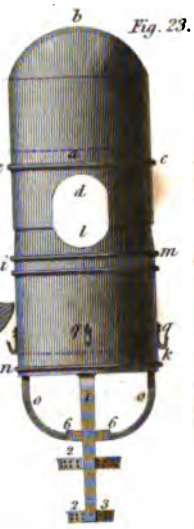


Fig. 25.

Fig. 24.

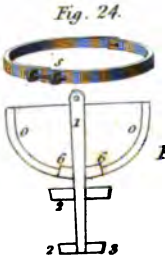
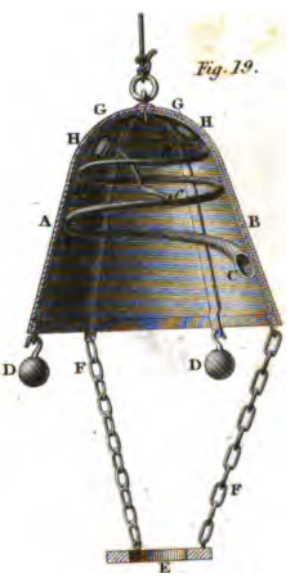


Fig. 26.

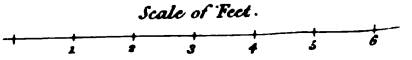
Fig. 27.

Section of Triewalds Diving Bell.

Fig. 19.



Scale of Feet.



J. Farey del.

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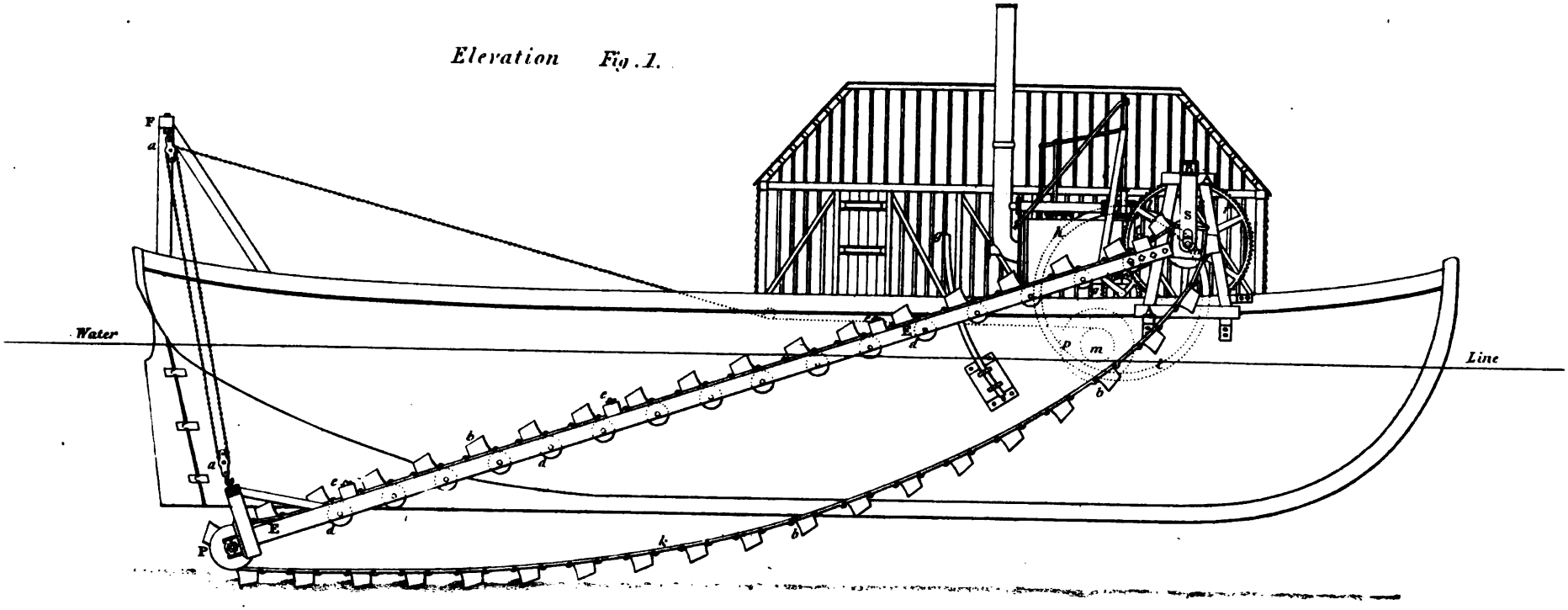
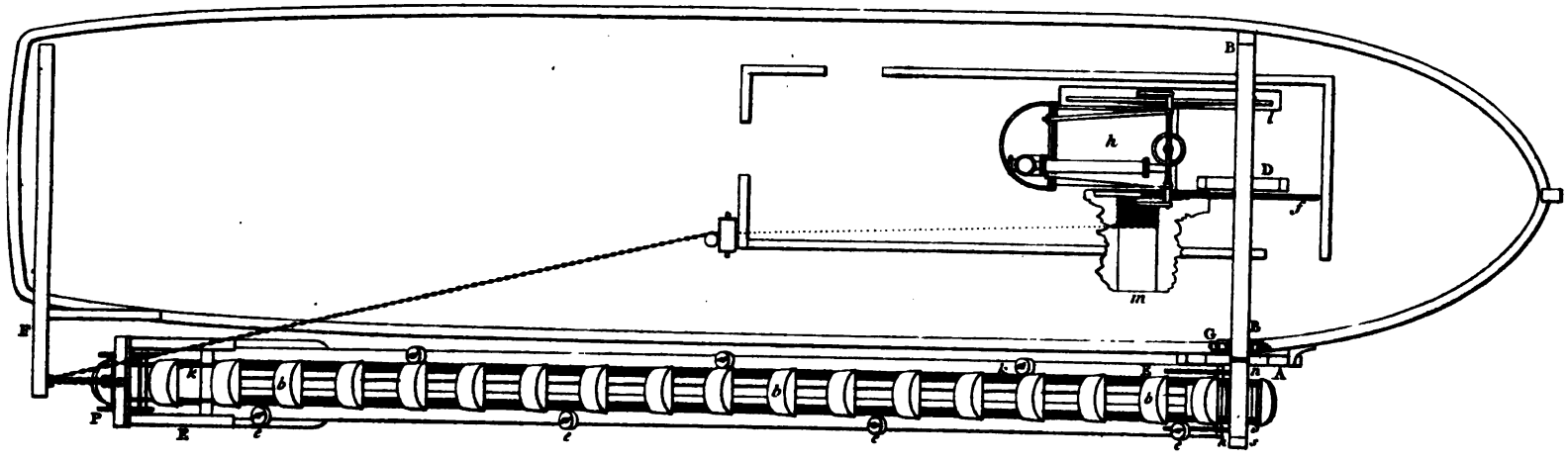
Lowry Sc.

Dredging machine used on the River Thames to deepen the channel.

Elevation *Fig. 1.*



Plan *Fig. 2.*



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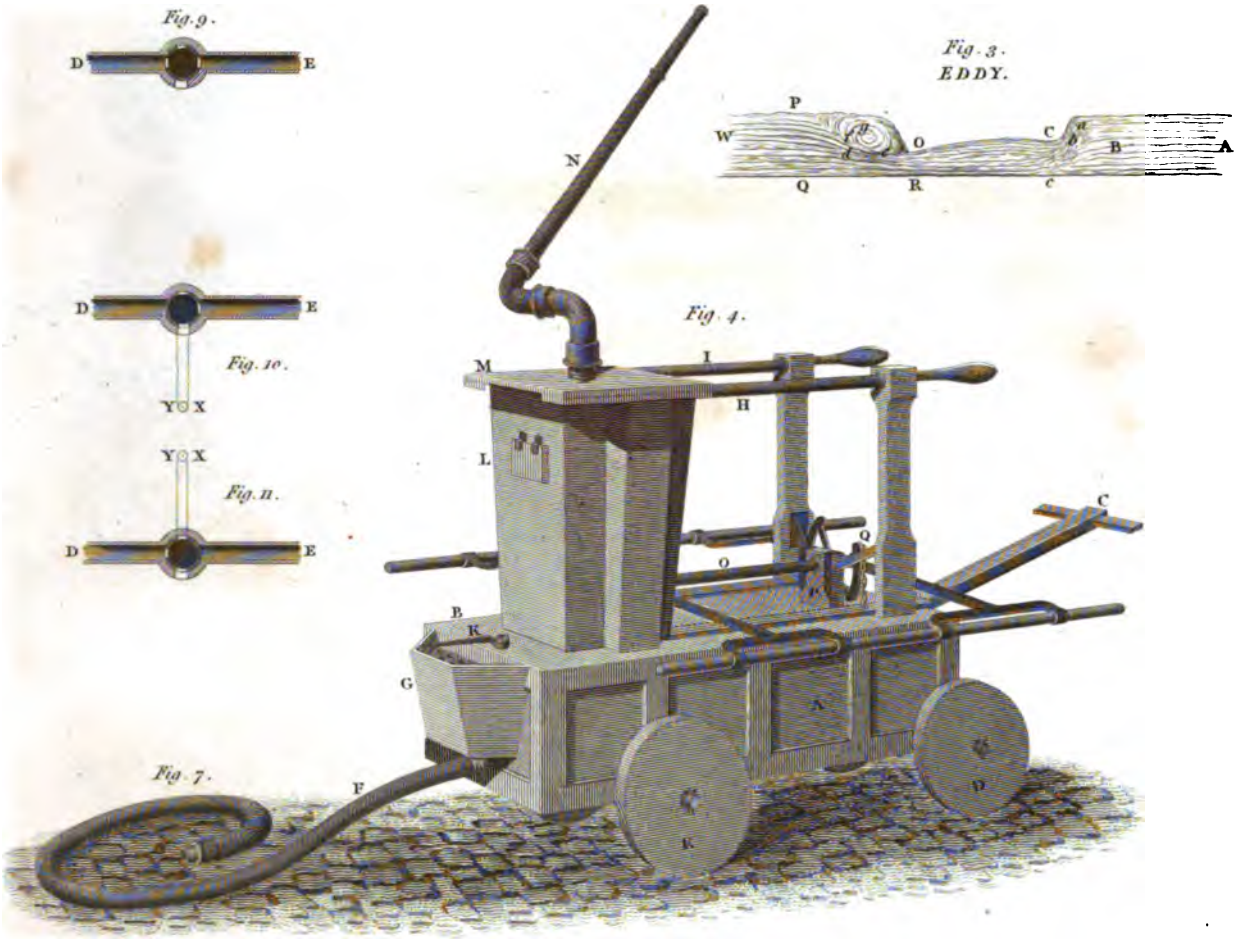
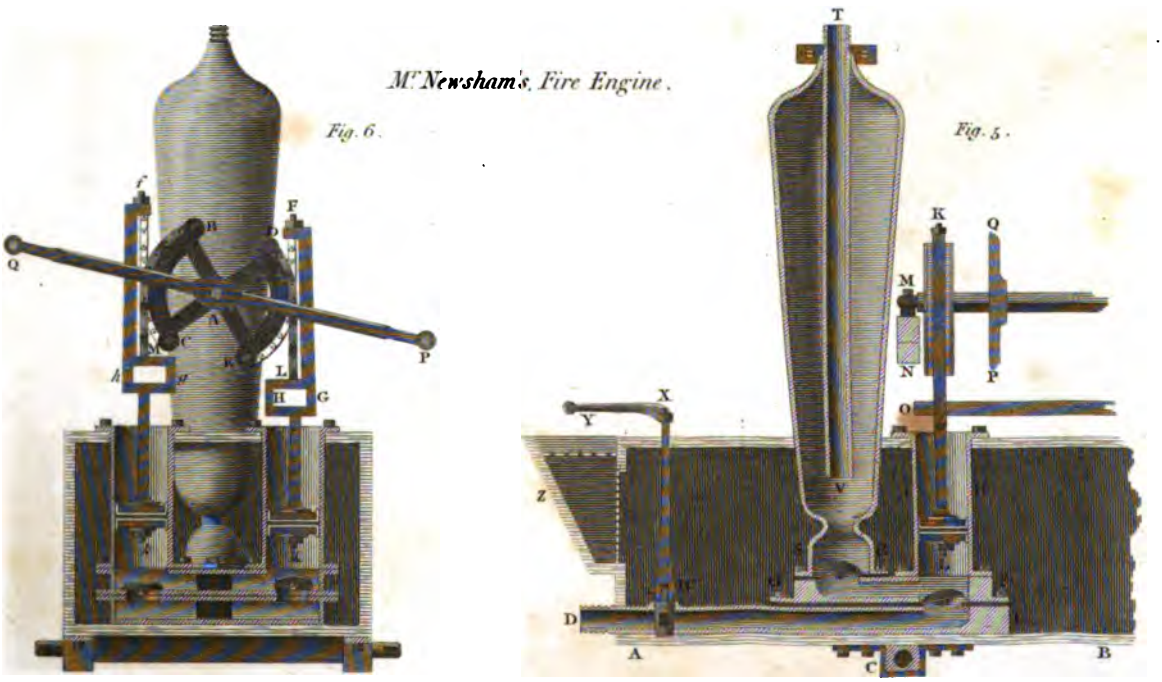
HYDRAULICS.





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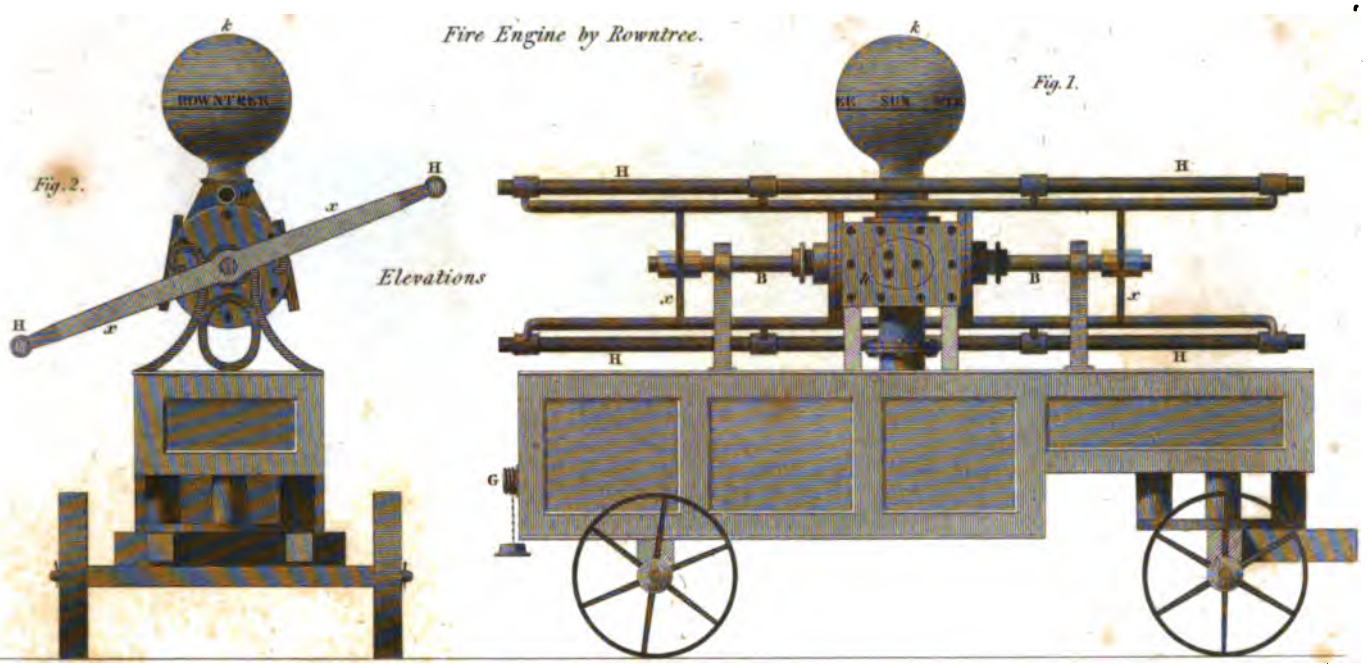

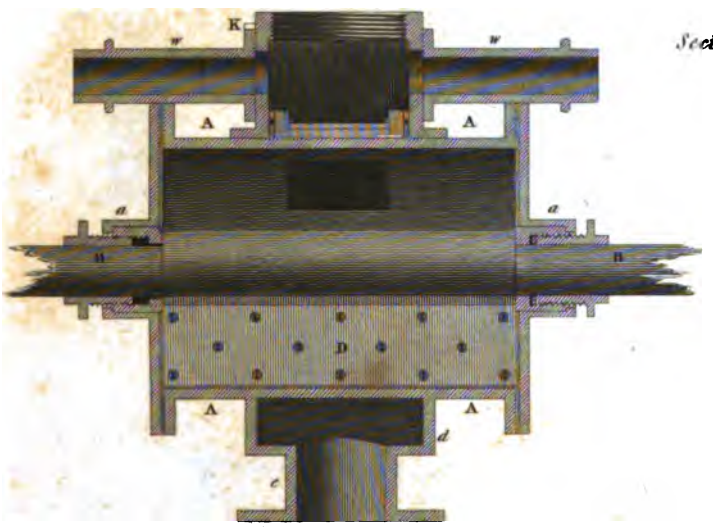

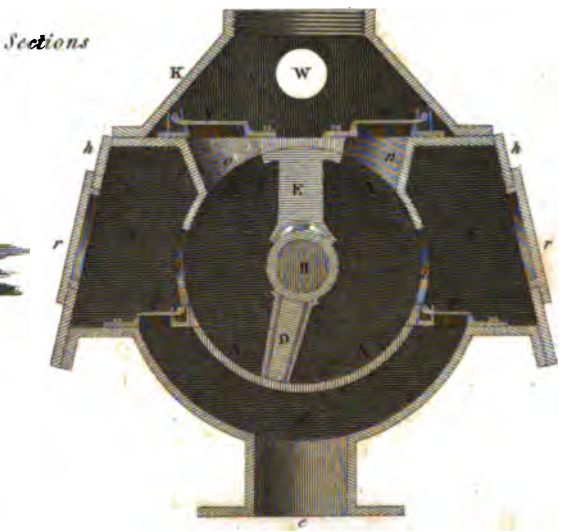

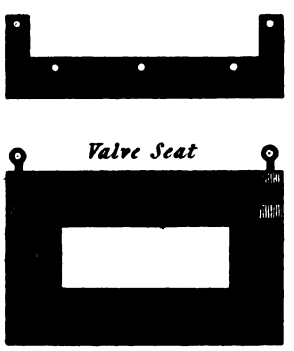

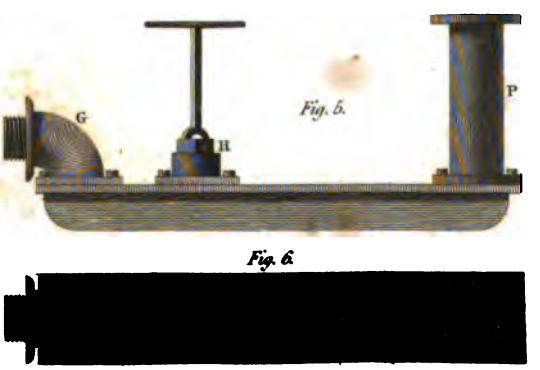

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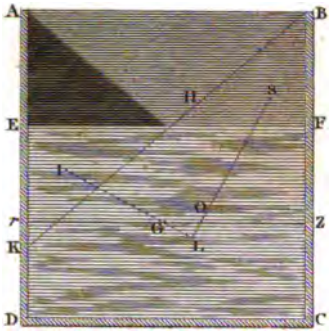
HYDRAULICS.

FLUIDS.

Fig. 1.



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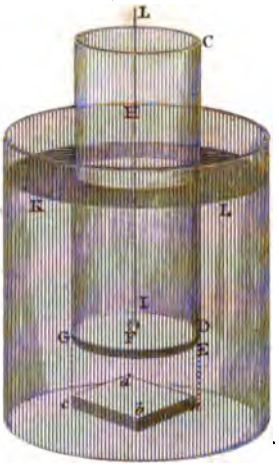

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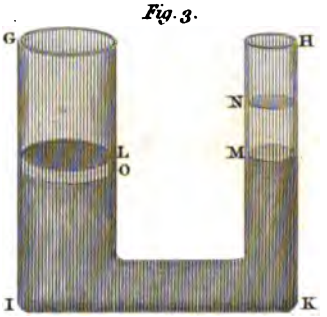

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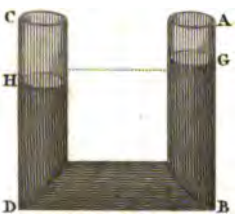

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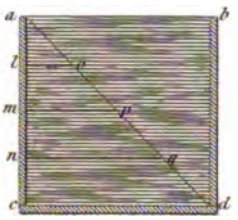

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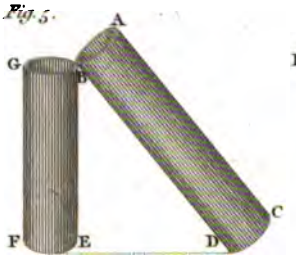

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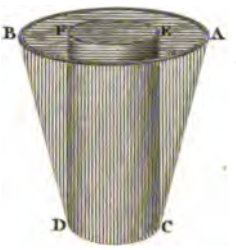


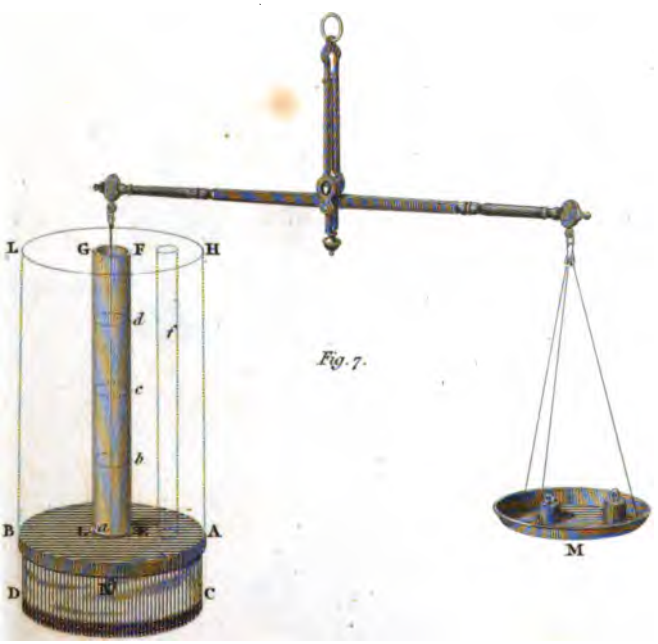
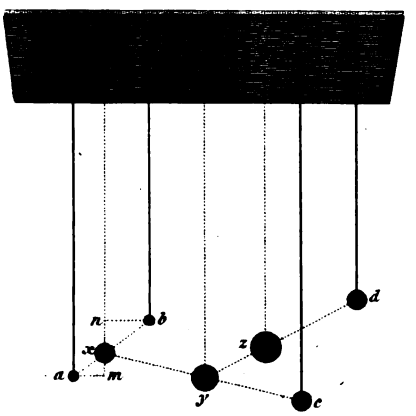


Fig. 7.

Fig. 9.



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FLUIDS.

Fig. 1.

Fig. 2.

Fig. 3.

Fig. 4.

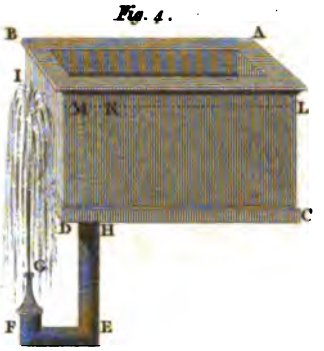


Fig. 5.

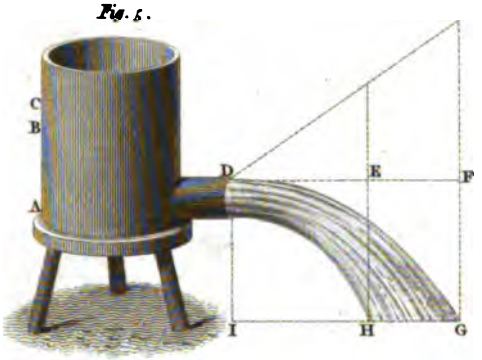
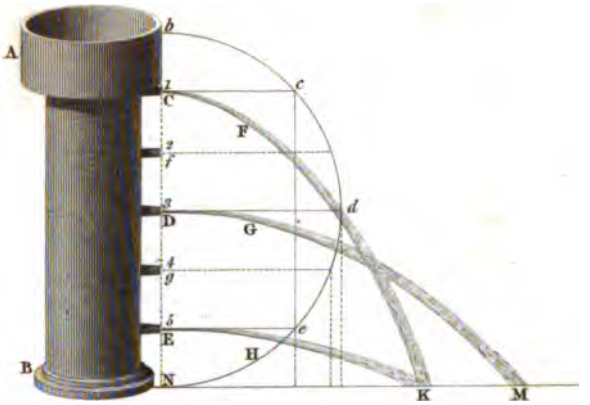


Fig. 6.



FOUNTAIN.

Fig. 7.

Fig. 8.

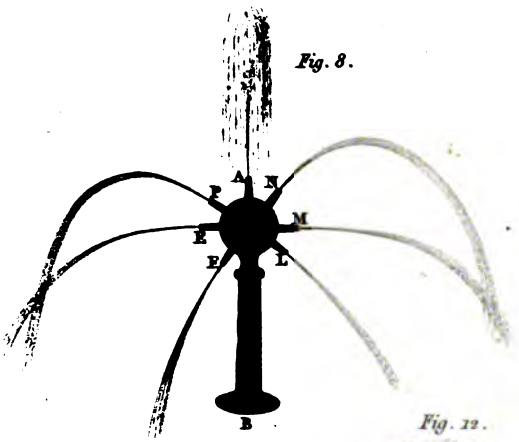


Fig. 9.

Fig. 10.

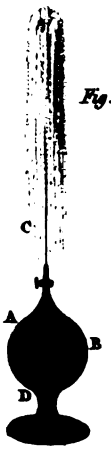


Fig. 11.

Fig. 12.

Fig. 13.

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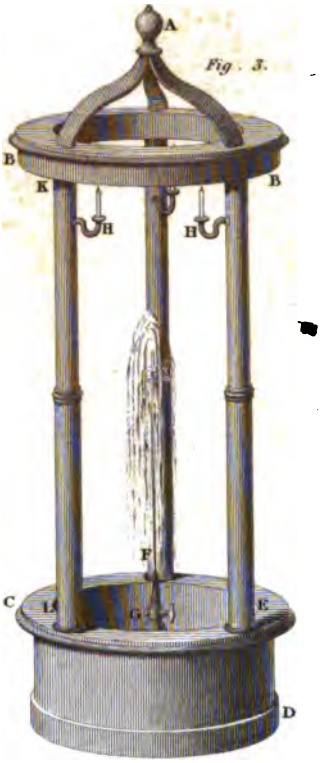
FOUNTAINS.

Fig. 1.

Fig. 2.

Fig. 3.



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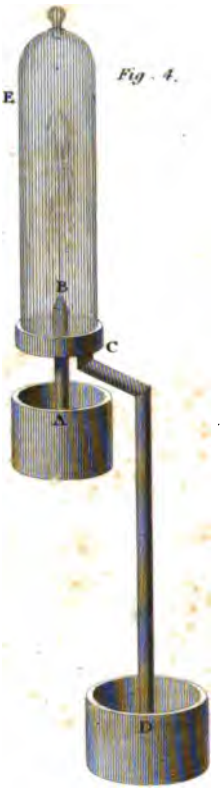

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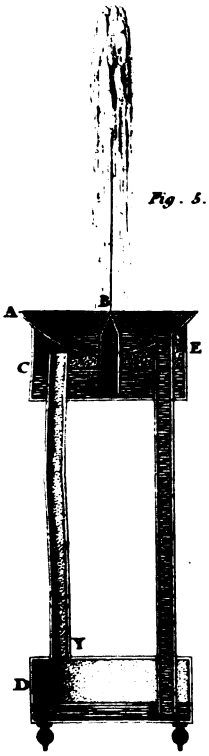

Fig. 6.

Fig. 7.

Fig. 8.

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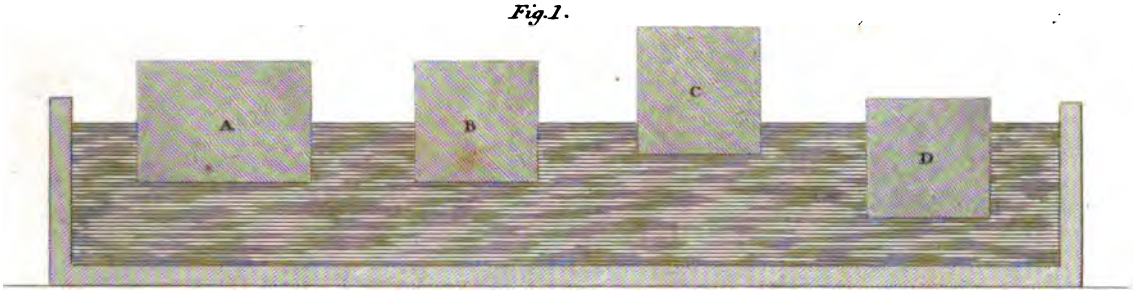
HYDRAULICS.

FLOATING.

Fig. 1.



HIERO'S CROWN.

Fig. 2.

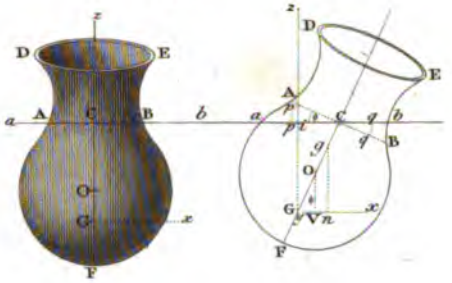


Fig. 3.

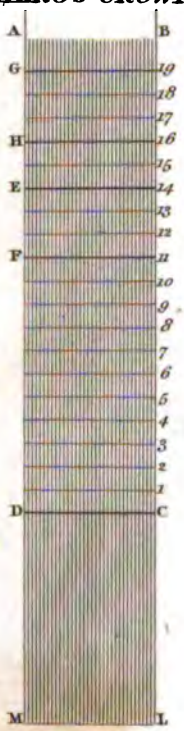
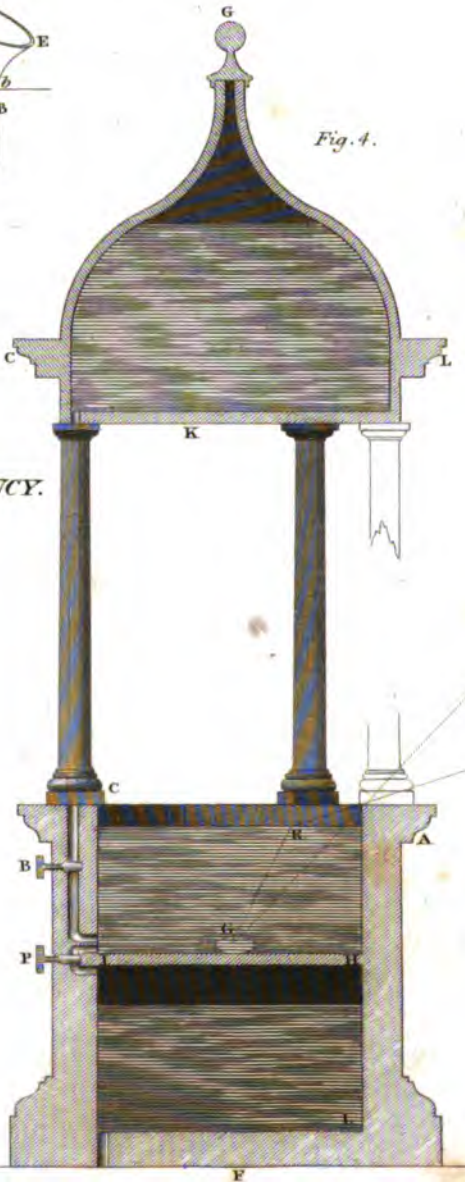
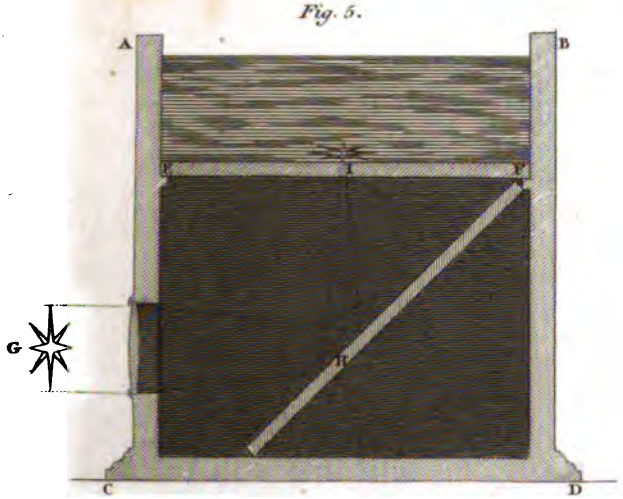


Fig. 4.



HYDROMANCY.

Fig. 5.



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Lowry sculp.

HYDRAULICS.

HYDROMETER &c.

HYDROMETER

Fig. 1.

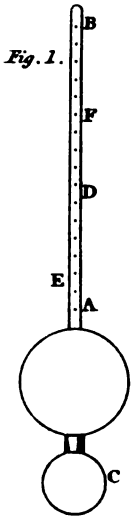


Fig. 2.

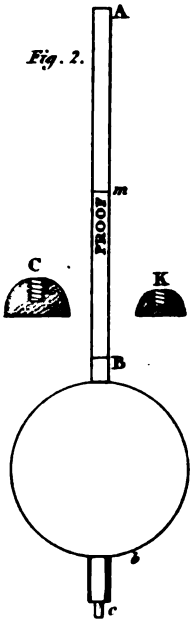


Fig. 3.

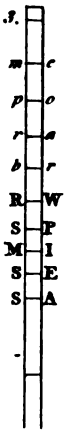


Fig. 4.

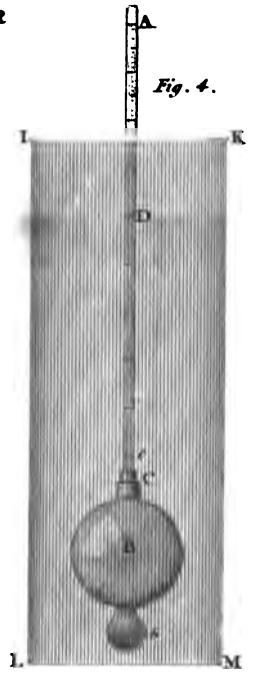


Fig. 5.

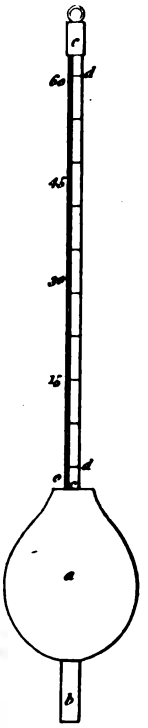


Fig. 7.

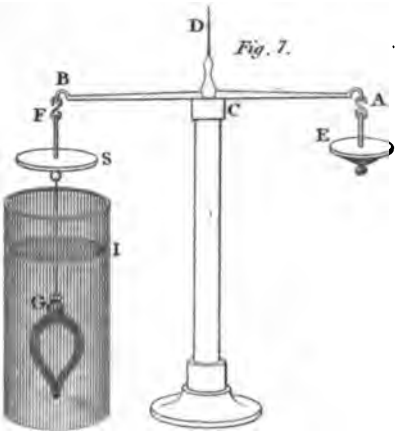


Fig. 8.

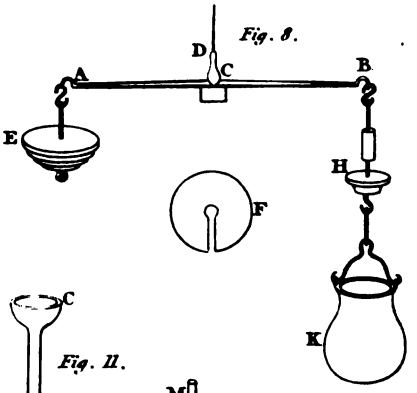


Fig. 15.

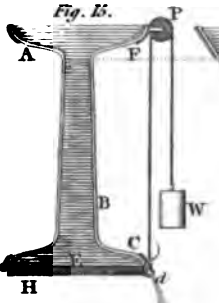


Fig. 16.

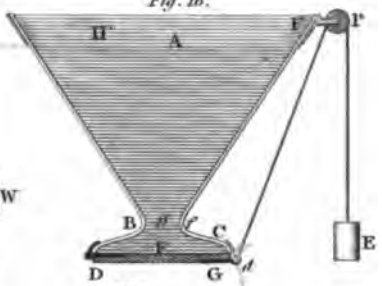


Fig. 9.

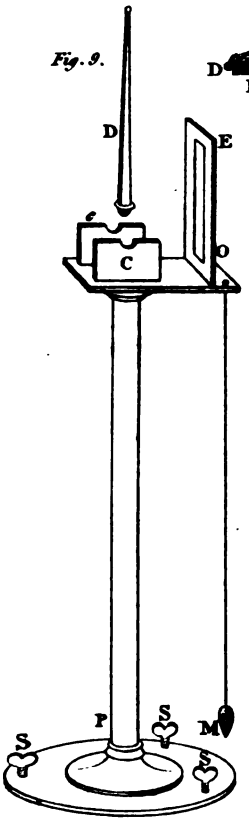


Fig. 10.

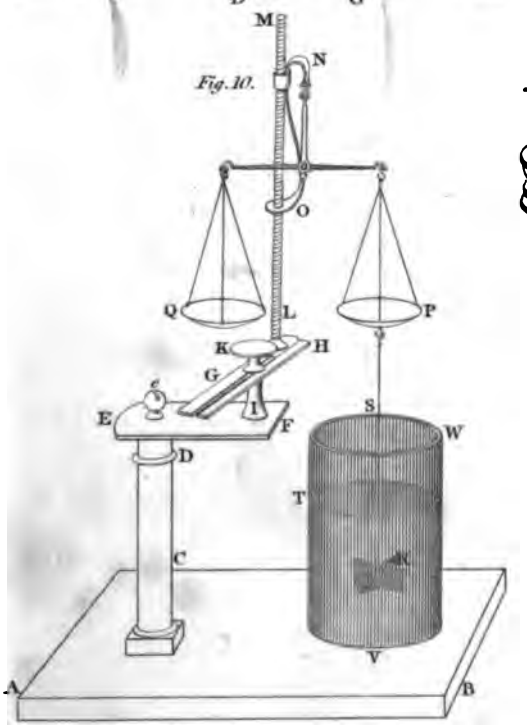


Fig. 11.

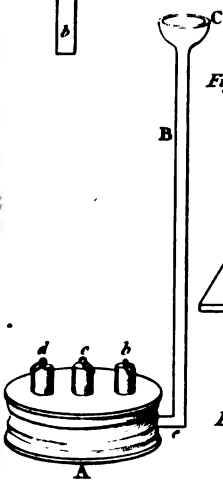


Fig. 14.

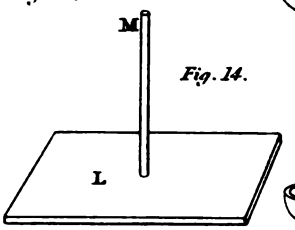
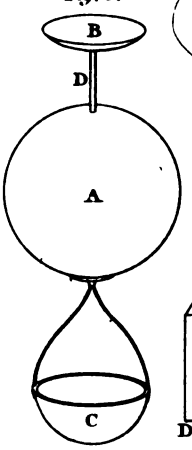


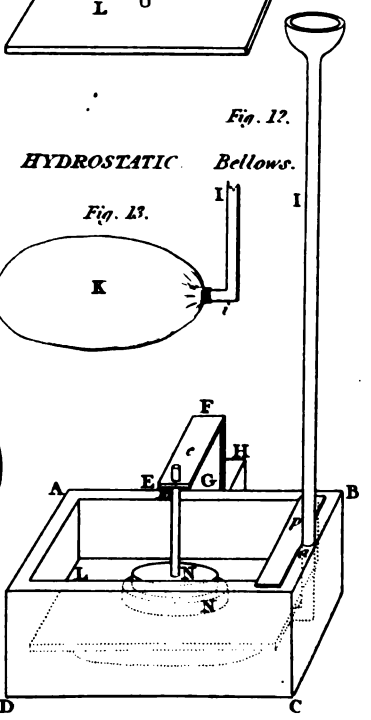
Fig. 12.

HYDROSTATIC Bellows.

Fig. 13.

Fig. 6.





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HYGROMETER.

Bradford's HYDROSTATICAL Instrument. Fig. 14.

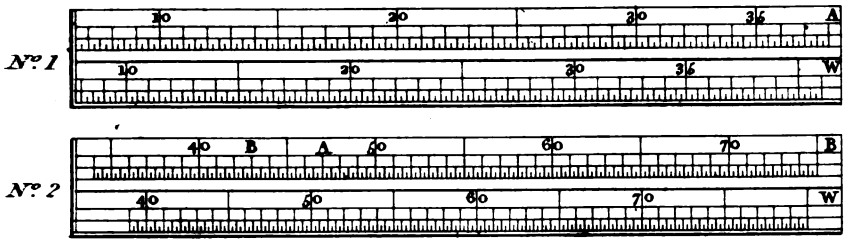


Fig. 1.

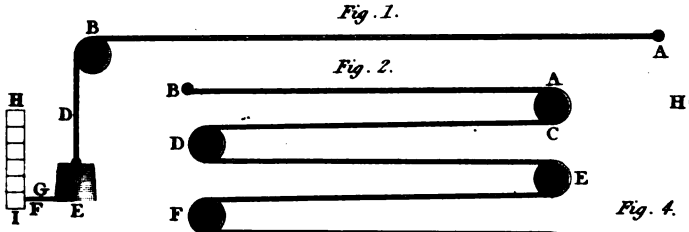


Fig. 2.

Fig. 11.

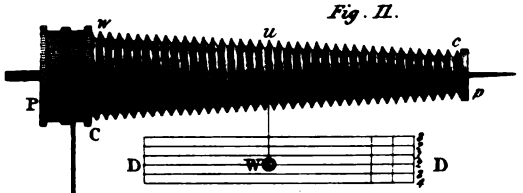


Fig. 4.

Fig. 8.

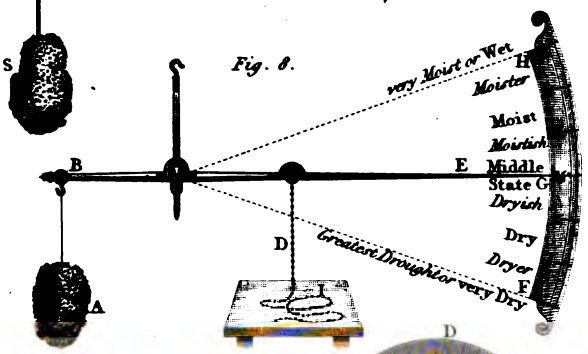


Fig. 7.

Fig. 6.

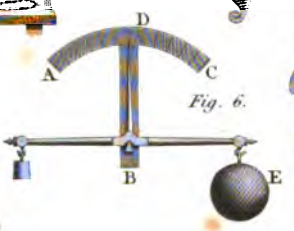


Fig. 12.

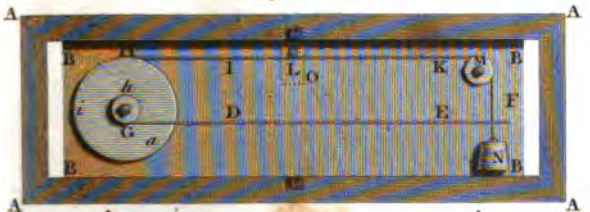


Fig. 13.

Fig. 14. No. 3.

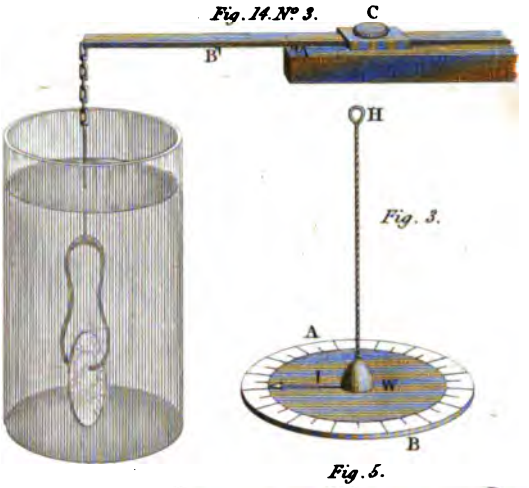
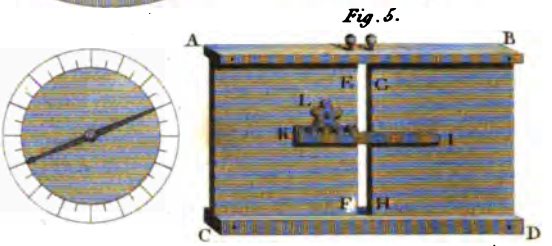


Fig. 3.

Fig. 5.



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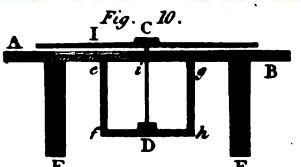
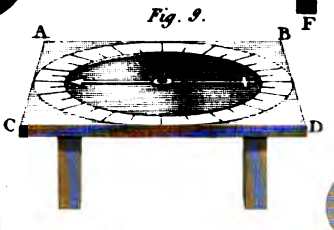


Fig. 9.



PL. XIII.

Fig. 1.

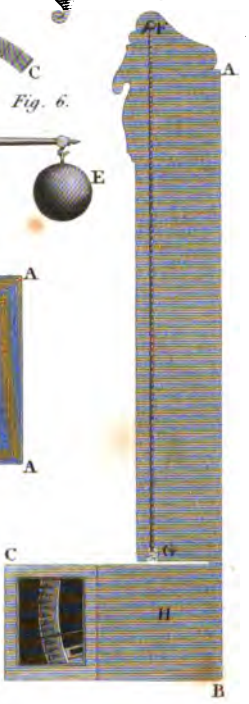
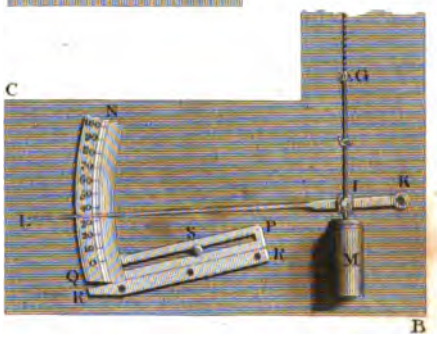


Fig. 3.

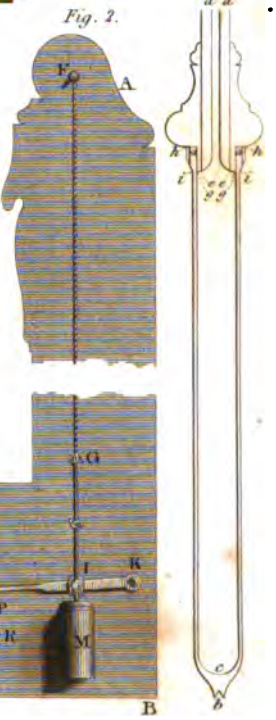
Fig. 4.



PL. XIII.

Fig. 5.

Fig. 2.



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HYDRAULICS.

HYGROMETER.

De Luc's Whalebone Hygrometer.

Fig. 8.

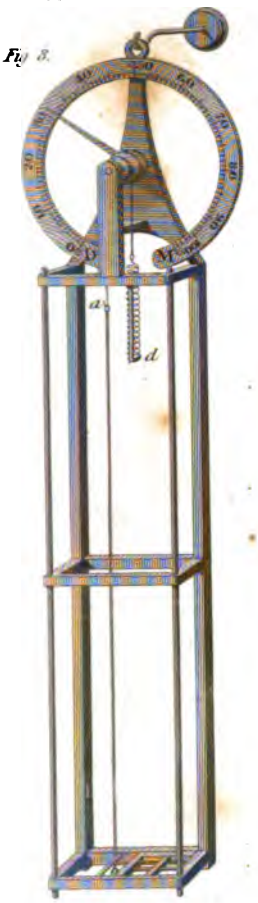


Fig. 9.

Saussure's.

Fig. 7.

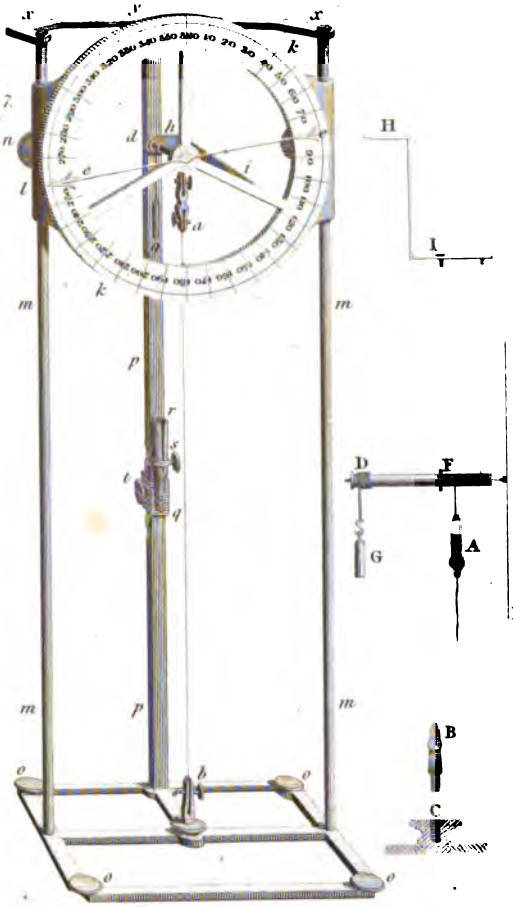


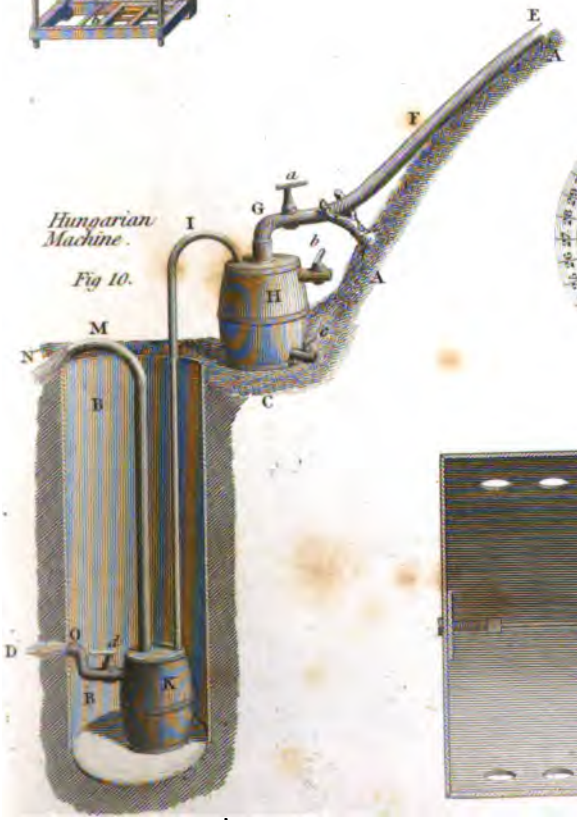
Fig. 5.

De Luc's.

Fig. 6.

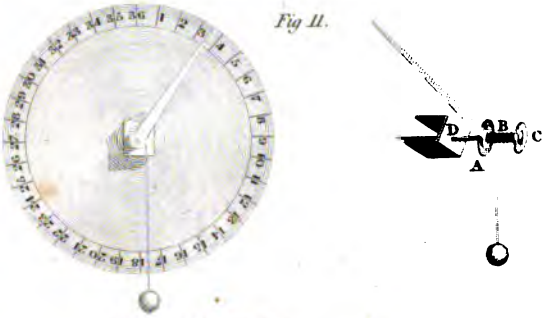
Hungarian Machine.

Fig 10.



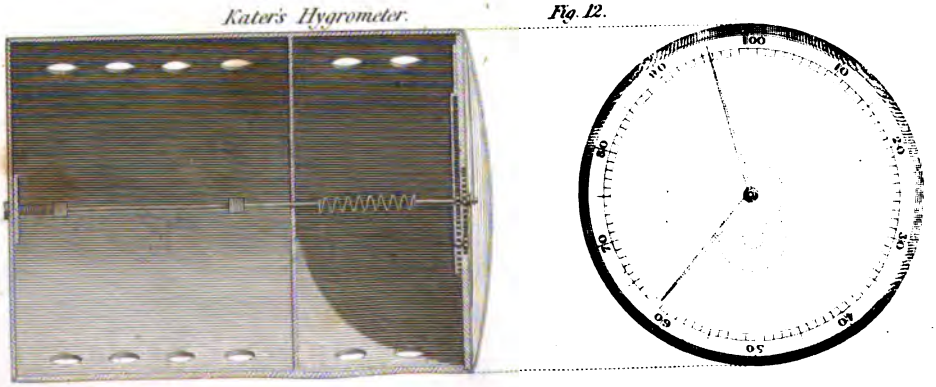
Forster's Hygrometer.

Fig 11.



Kater's Hygrometer.

Fig. 12.



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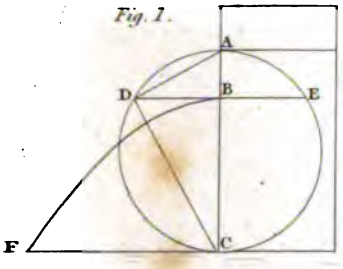
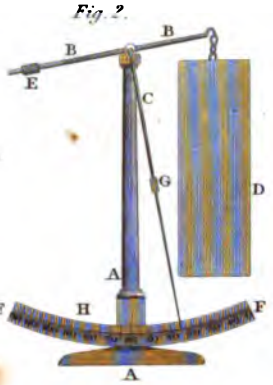
JET d'eau.

Fig. 1.



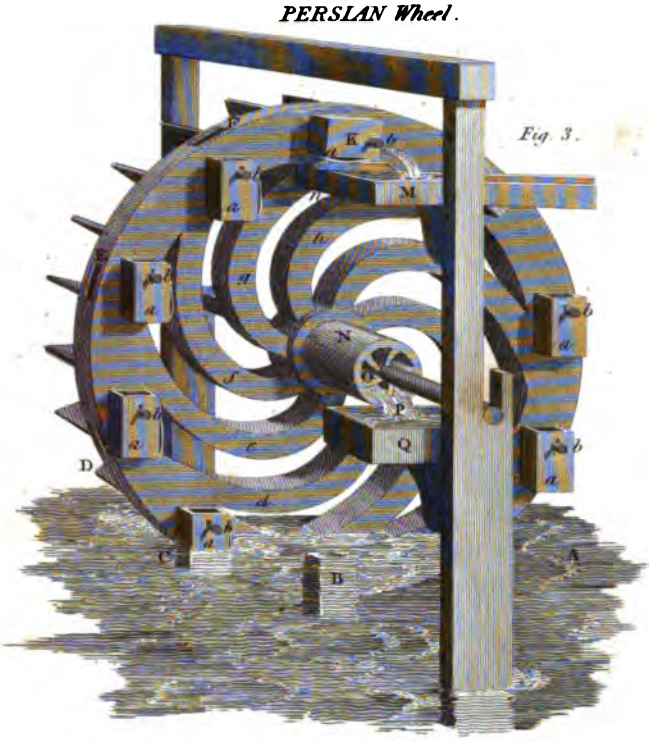
MOISTURE

Fig. 2.



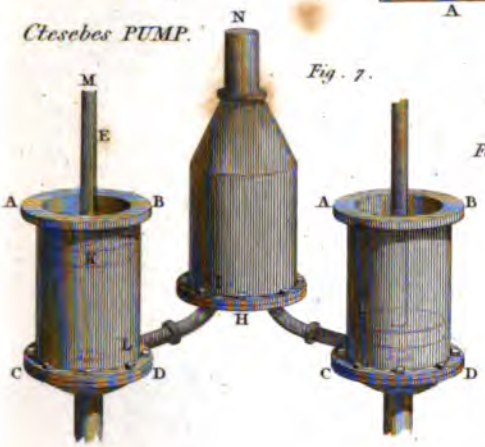
PERSIAN Wheel.

Fig. 3.



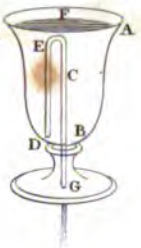
Ctesebes PUMP.

Fig. 7.



TANTALUS'S Cup.

Fig. 10.

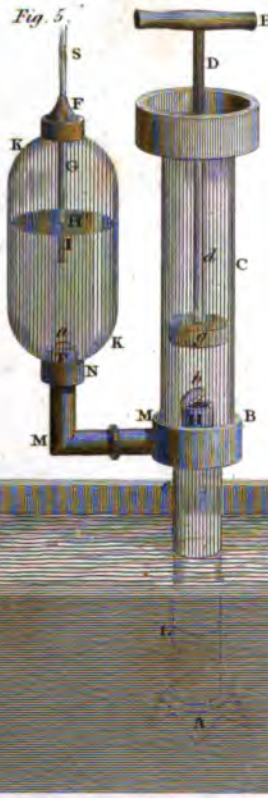


Sucking PUMP.

Fig. 4.

Forcing PUMP.

Fig. 5.



Lifting PUMP.

Fig. 6.

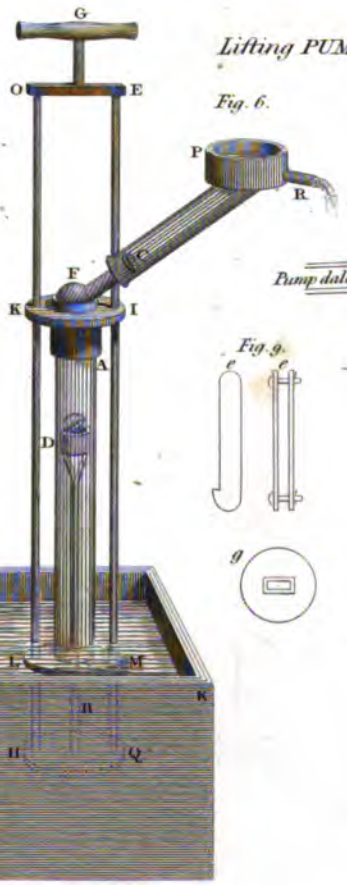
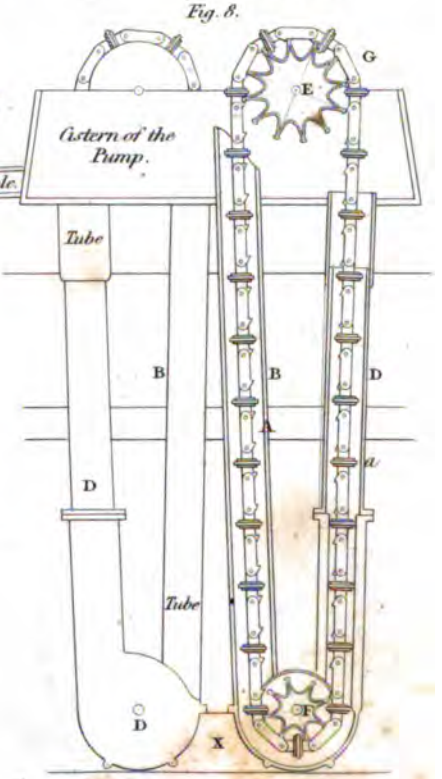


Fig. 9.

Chain PUMP.

Fig. 8.



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HYDRAULICS.

SIPHON.

PLATE XV.

Fig. 1.

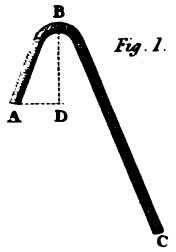


Fig. 2.

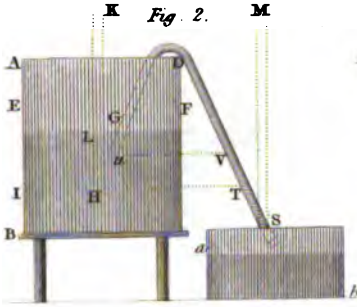


Fig. 3.

Fig. 4.

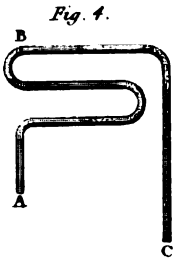
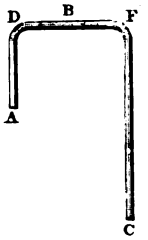
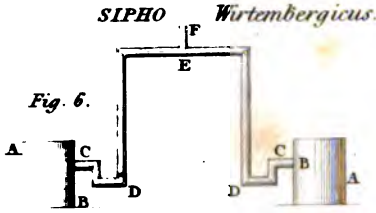


Fig. 5.



SIPHO Wirtembergicus.

Fig. 6.



SPRINGS.
Fig. 7.

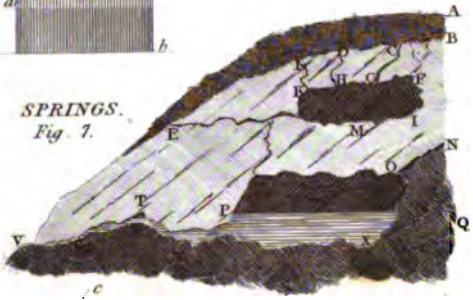


Fig. 8. SYRINGE.

Fig. 10.

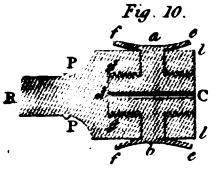


Fig. 9.

Fig. 11.

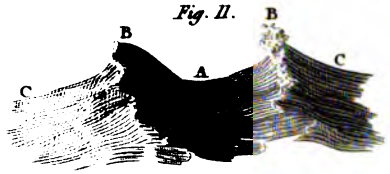
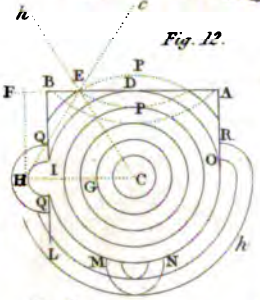


Fig. 12.



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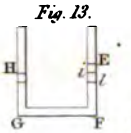


WAVE.

Fig. 14.

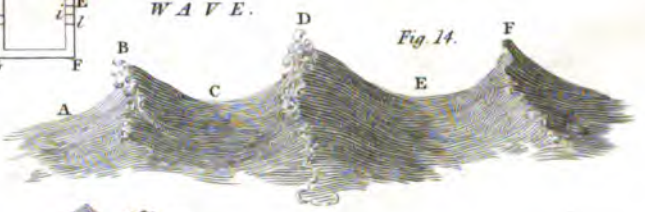


PLATE XIV.

ROPE Pump.

Fig. 9.

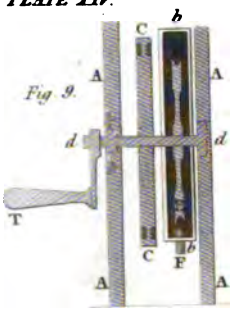
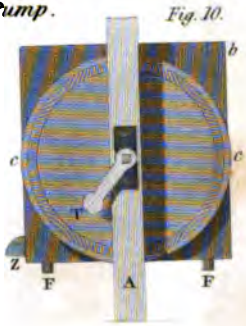
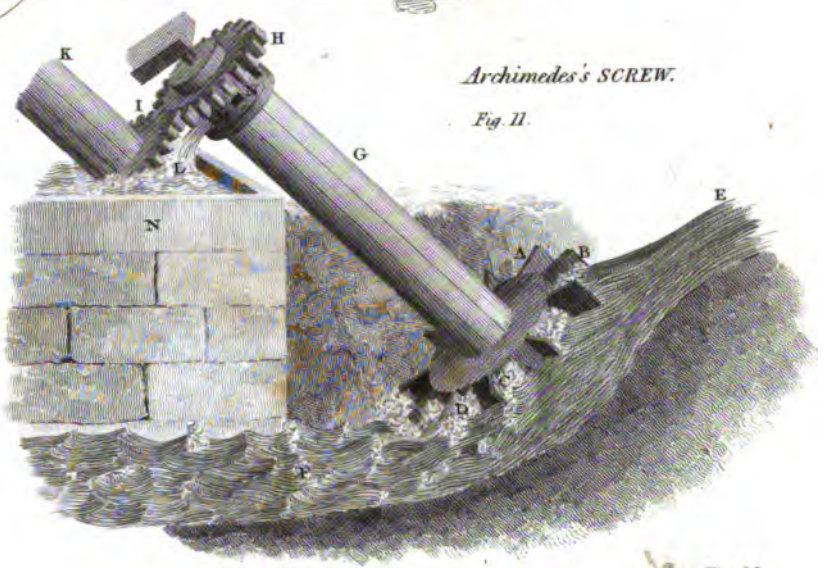


Fig. 10.



Archimedes's SCREW.

Fig. 11.



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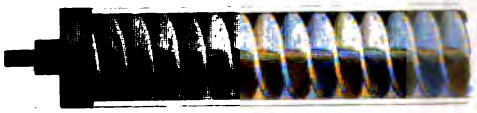


Fig. 15.

Fig. 14.

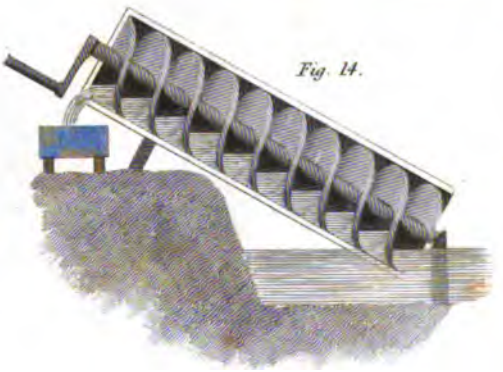


Fig. 13.

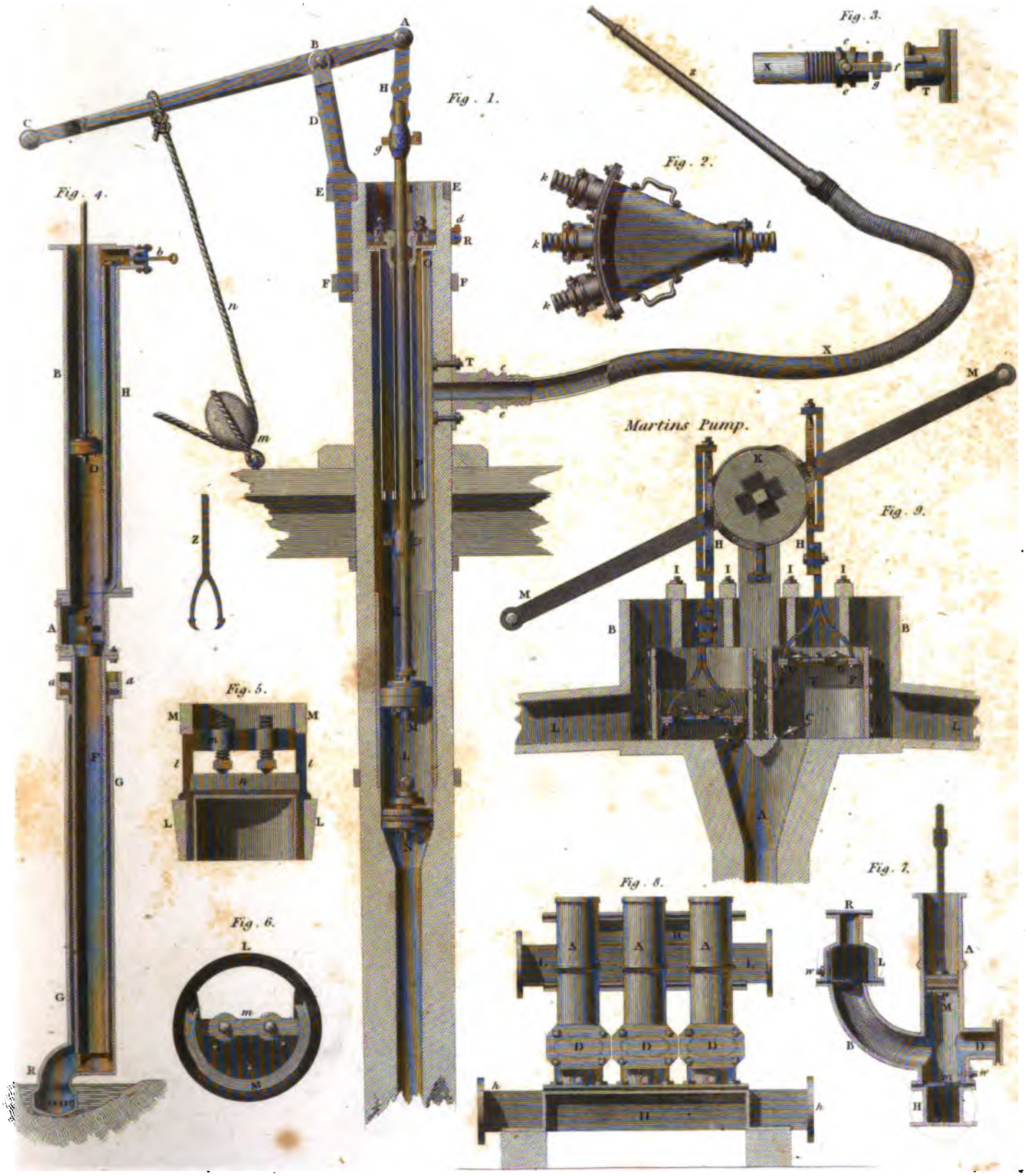
Published as the Act directs, 1800, by Longman, Hurst, Rees, Orme & Brown, Paternoster Row.

Lowry. Sc.

HYDRAULICS

PUMPS.

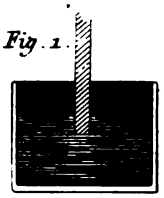
Cap.t Jekyl's improved Ships Pump.



J. Farey del. Published as the Act directs, 1815, by Longman, Hurst, Rees, Orme & Brown, Paternoster Row. Lowry Sculp.

HYDROSTATICS.

Fig. 1.



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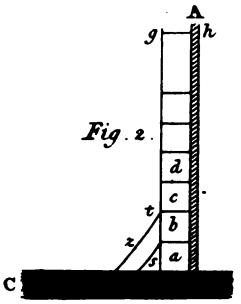

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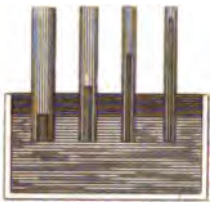

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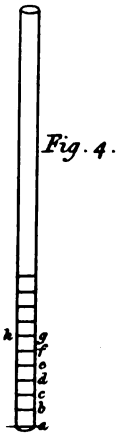

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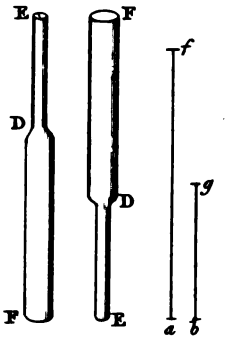

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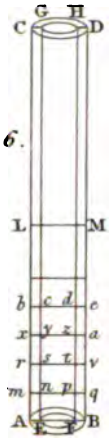

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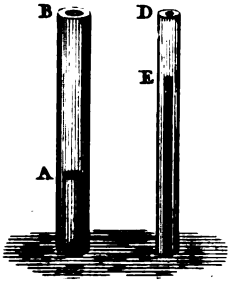


Fig. 8.

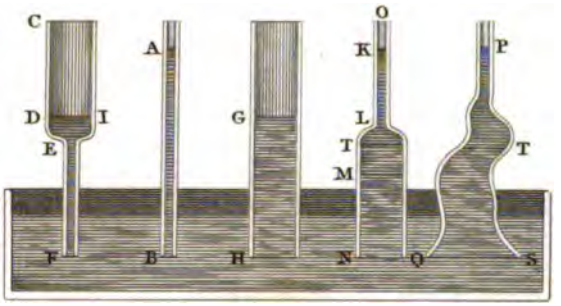


Fig. 9.

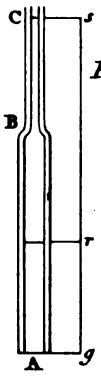


Fig. 10.* see Fig. 5.

Fig. 11.

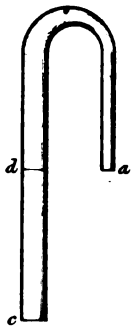
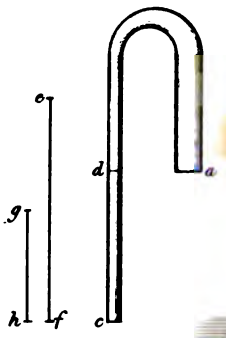


Fig. 12.



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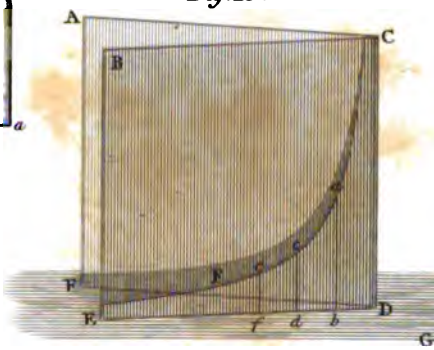

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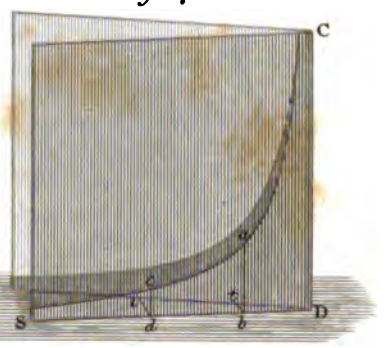


Fig. 15.

Fig. 16.

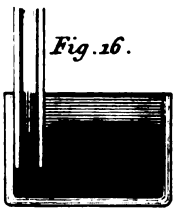


Fig. 17.

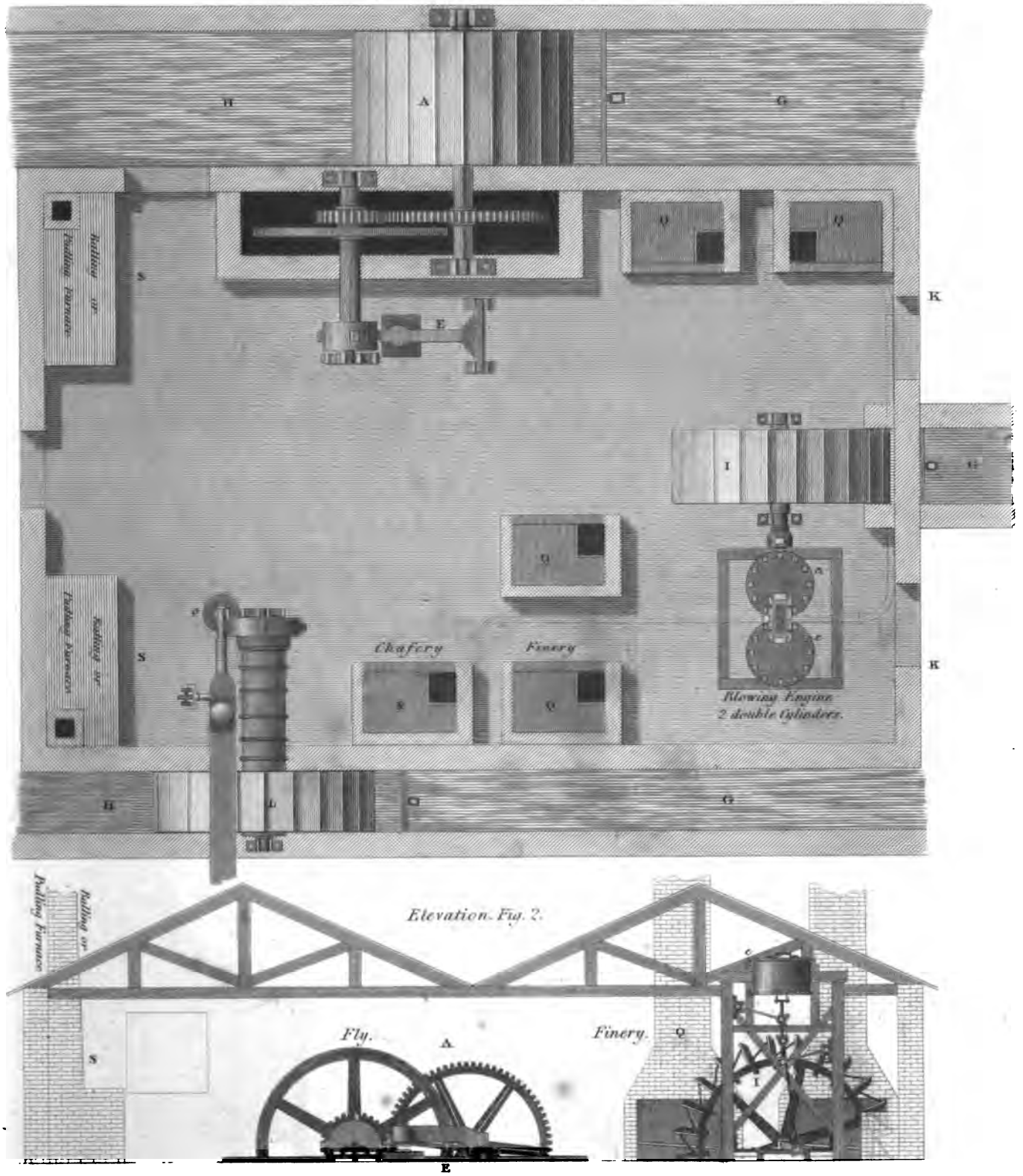
Published as the Act directs, May 1st 1806, by Longman, Hurst, Rees & Orme, Paternoster Row.

Engraved by Wilson Lowry.

IRON MANUFACTURE.

PLATE I.

Fig. 1. Plan of an Iron Forge.



J Farey Jun. del.

Published as the Act directs, 1811, by Longman, Hurst, Rees, Orme and Brown, Paternoster Row.

Engraved by W. Lowry.

Fig. 2.

Fig. 1.

SECTIONS of the finery.

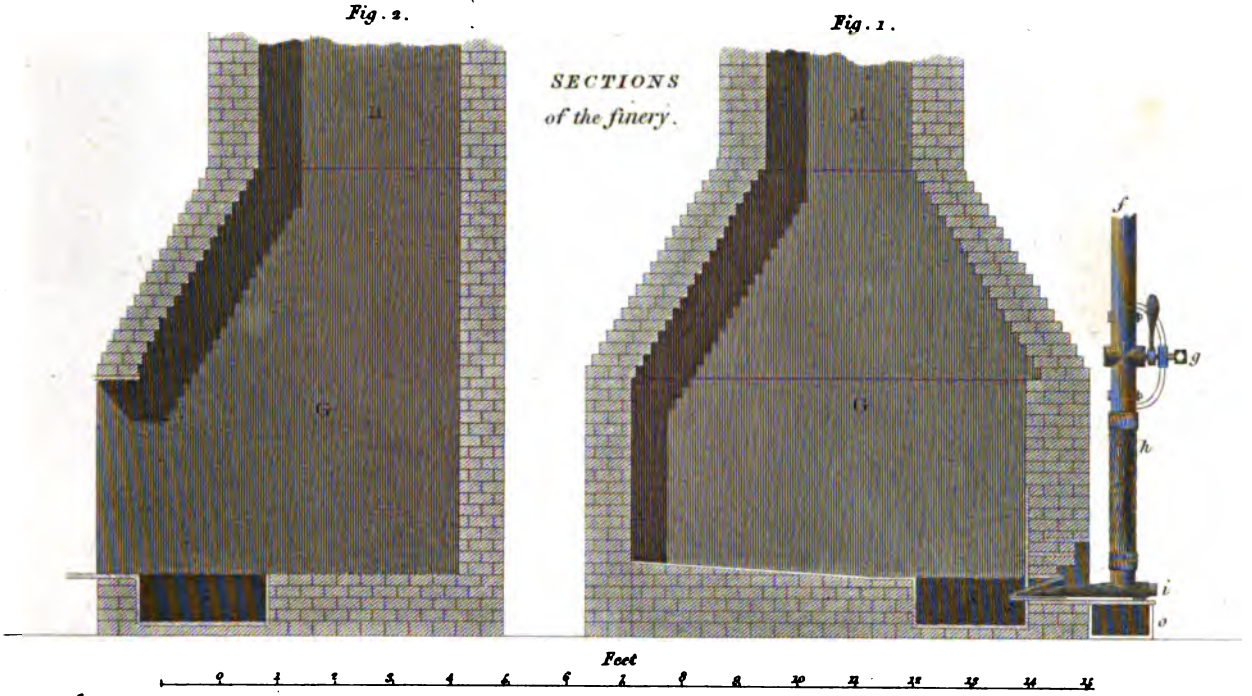


Fig. 4.

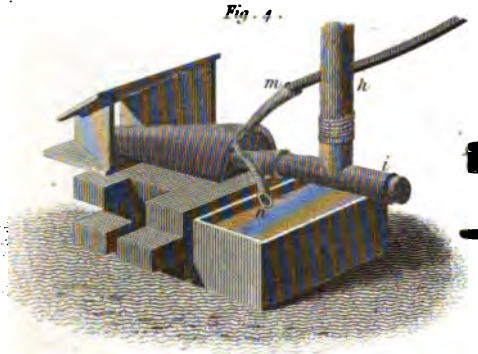
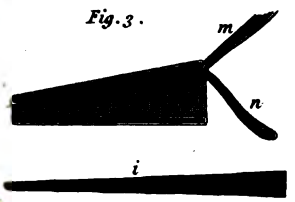


Fig. 3.



z

Fig. 5.

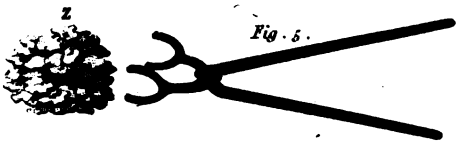


Fig. 6.

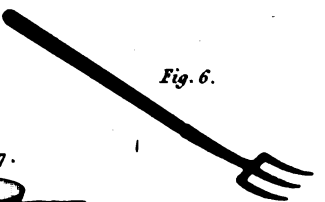


Fig. 7.

BALLING FURNACE

Fig. 9.

Fig. 8.

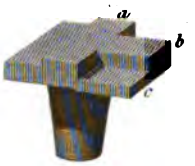


Fig. 11.

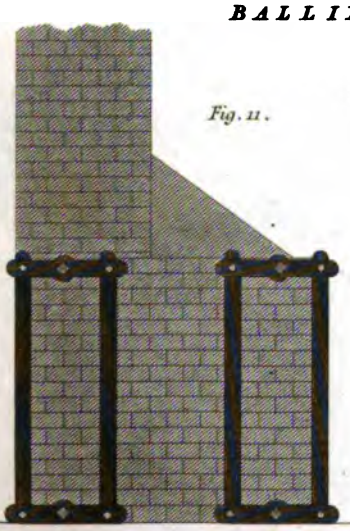
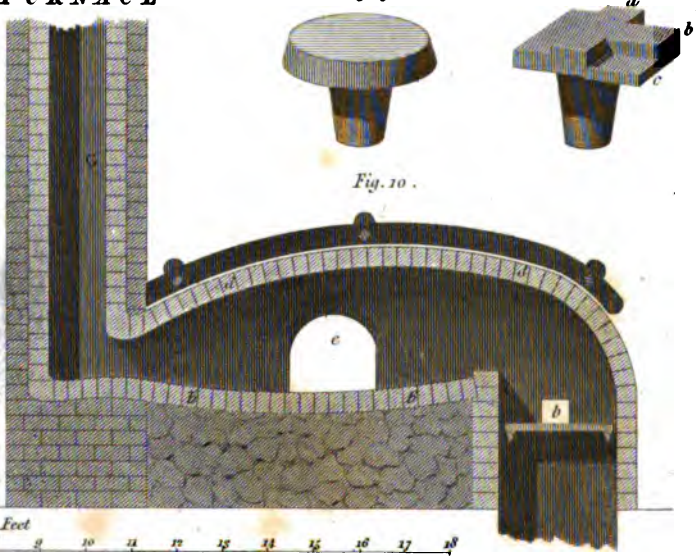


Fig. 10.



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FURNACE.

PLATE III &IV.

Fig. 6.

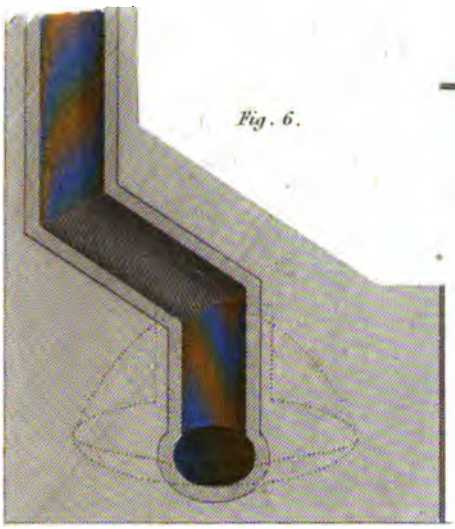


Fig. 5.

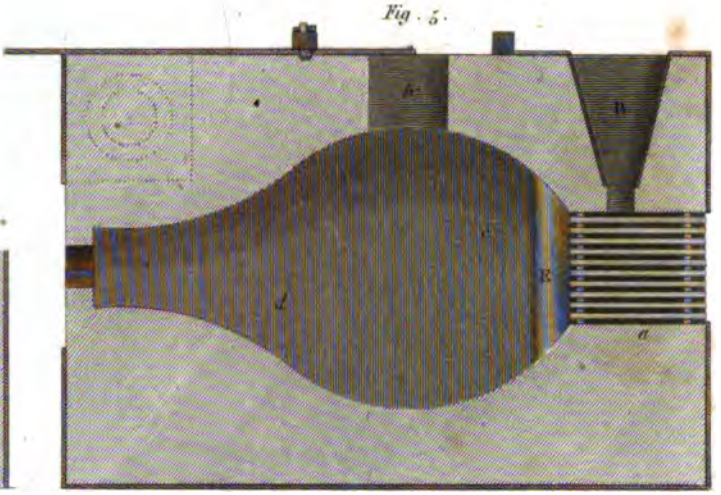


Fig. 7.

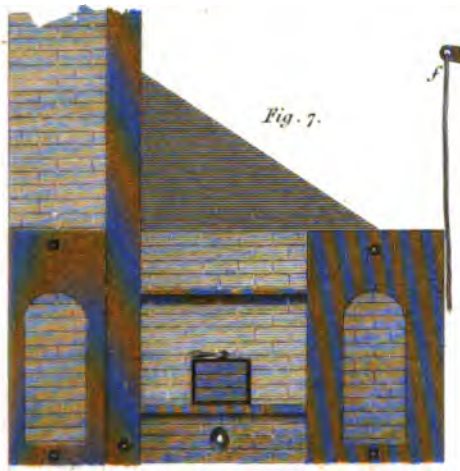
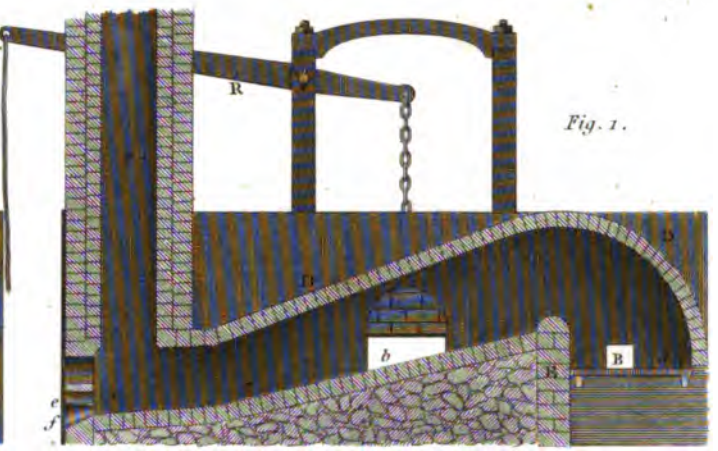


Fig. 1.



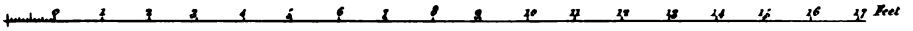


Fig. 4.

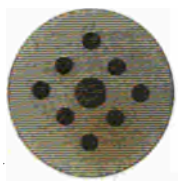


Fig. 5.

Fig. 3.

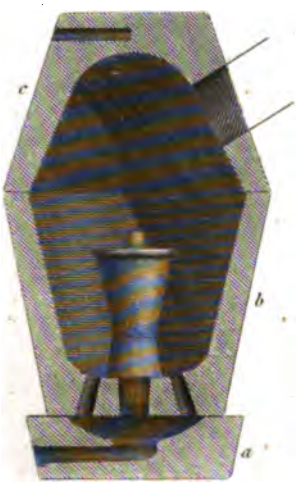
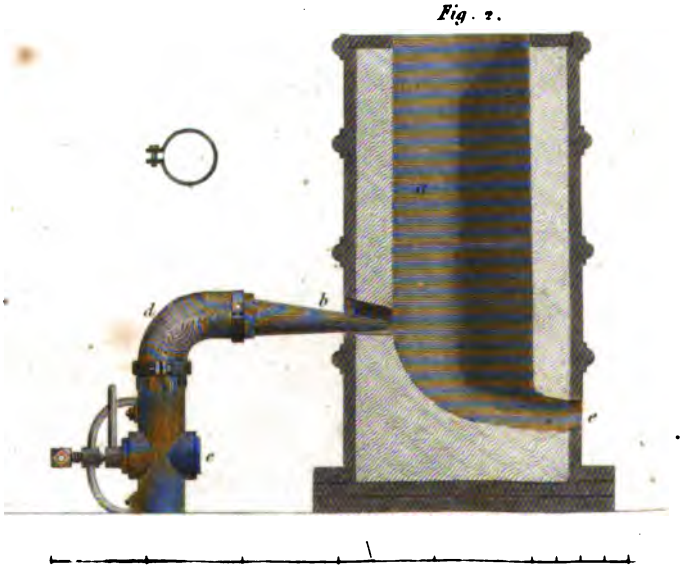


Fig. 2.



Farey del. *Published as the Act directs, 1811, by Longman, Hurst, Rees, Orme & Brown, Paternoster Row.* *Engraved by Wilson Lowry.*

Mr. Smeatons design for the Machinery of the Hammer at Kilnhurst Forge.

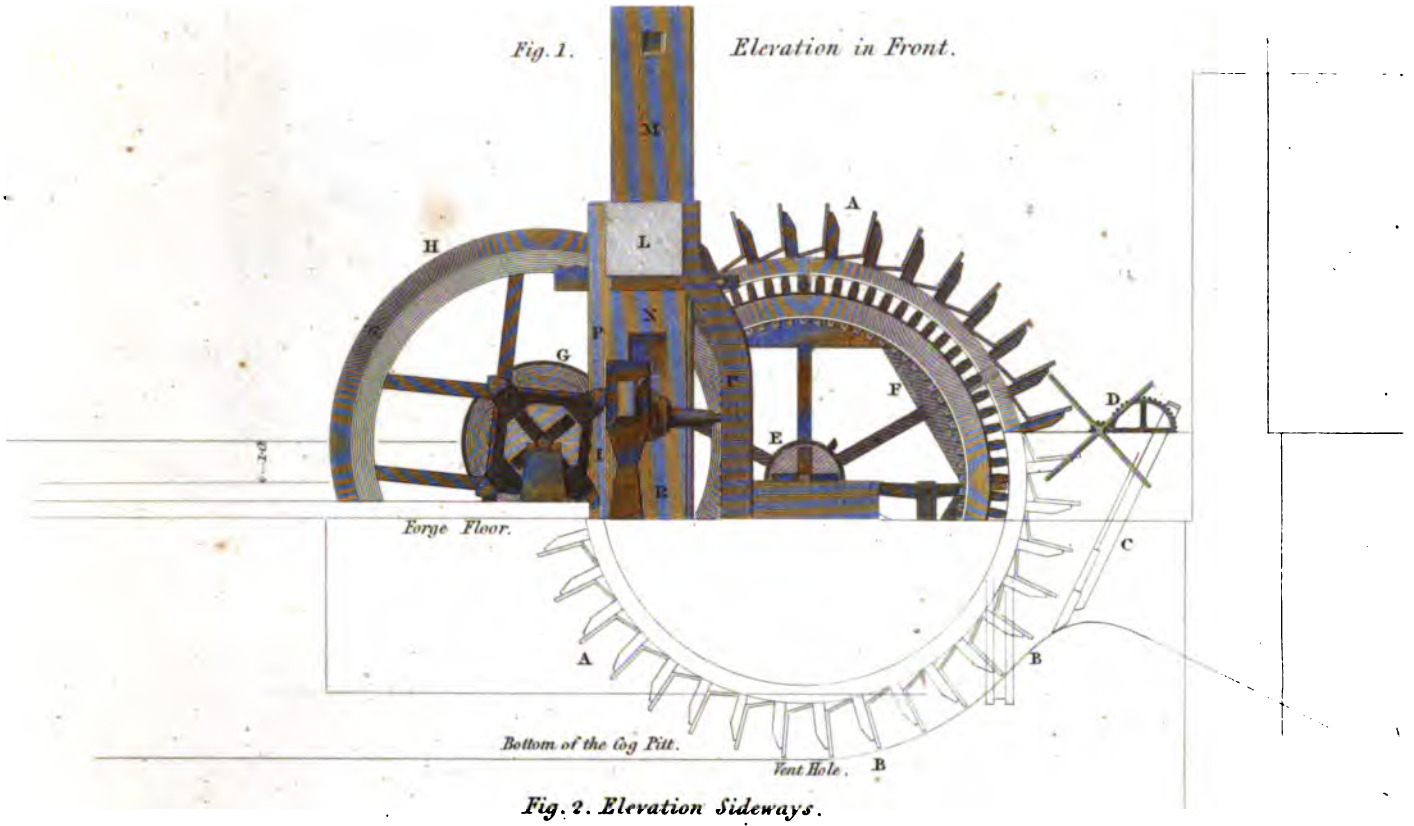
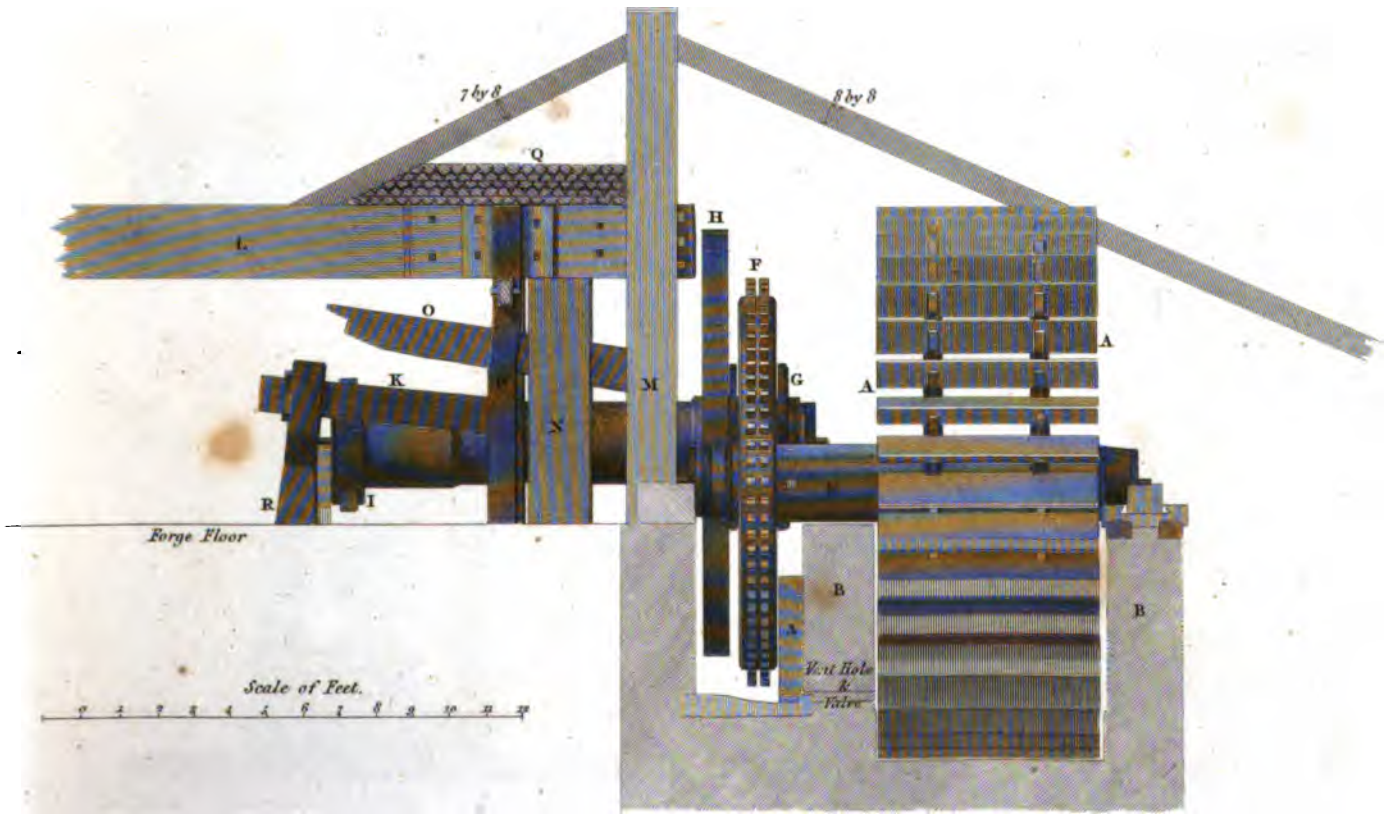


Fig. 2. Elevation Sideways.



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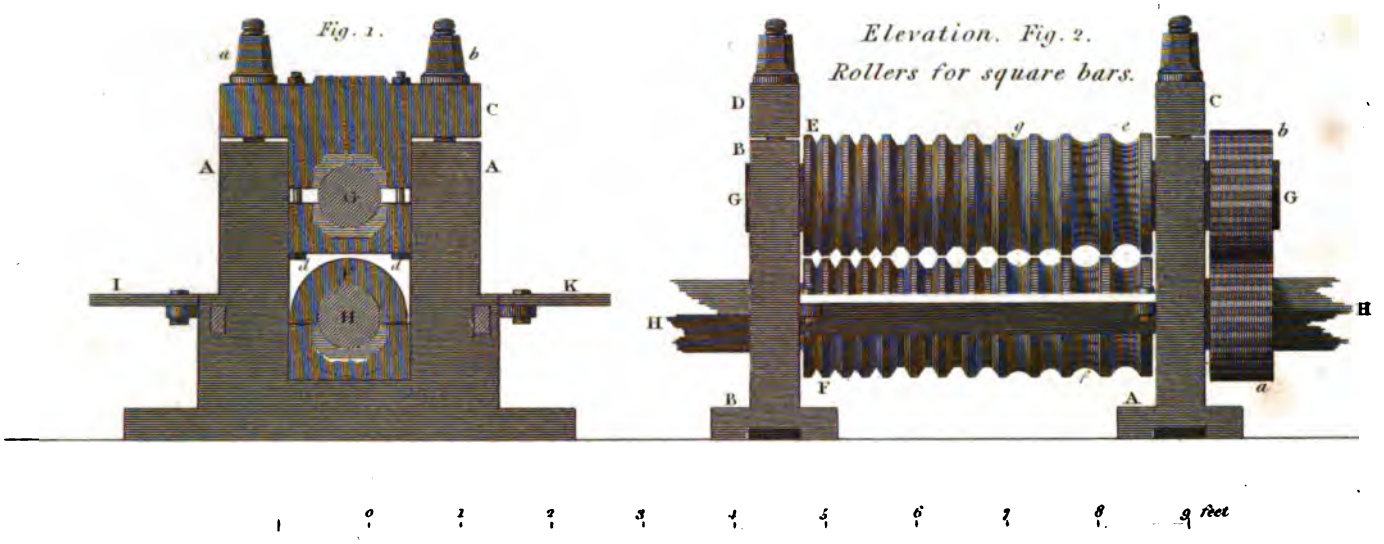
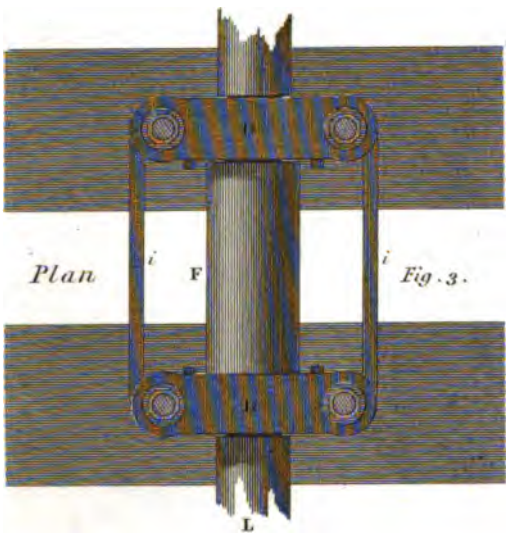
IRON MANUFACTURE.

PLATE V.

ROLLERS for making BAR IRON.





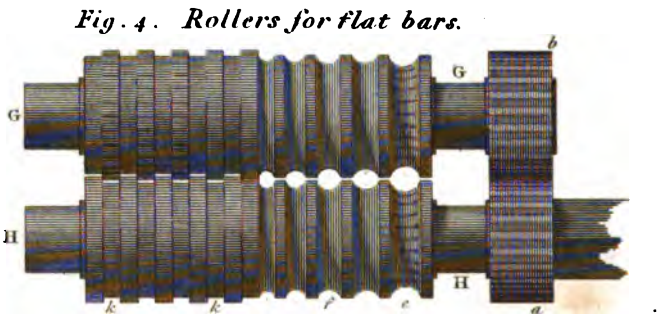
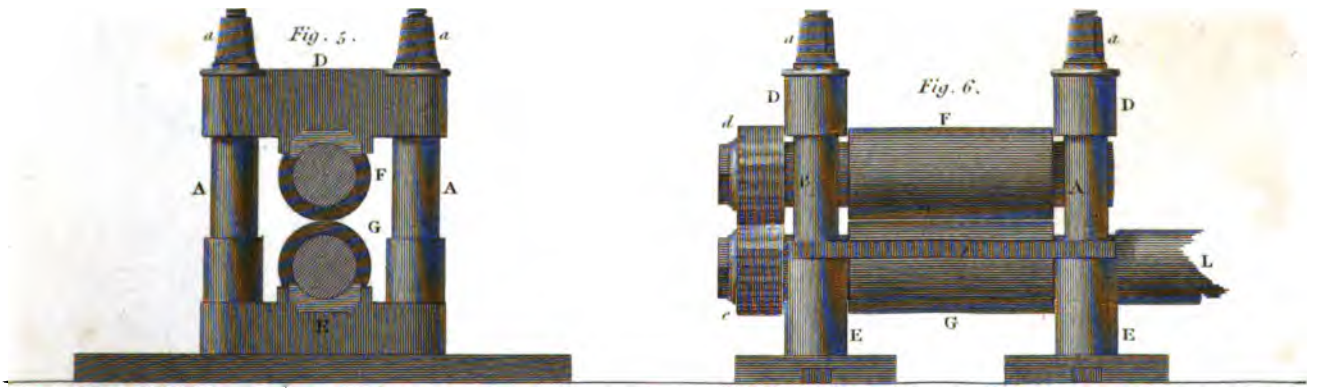


Plate Roller.



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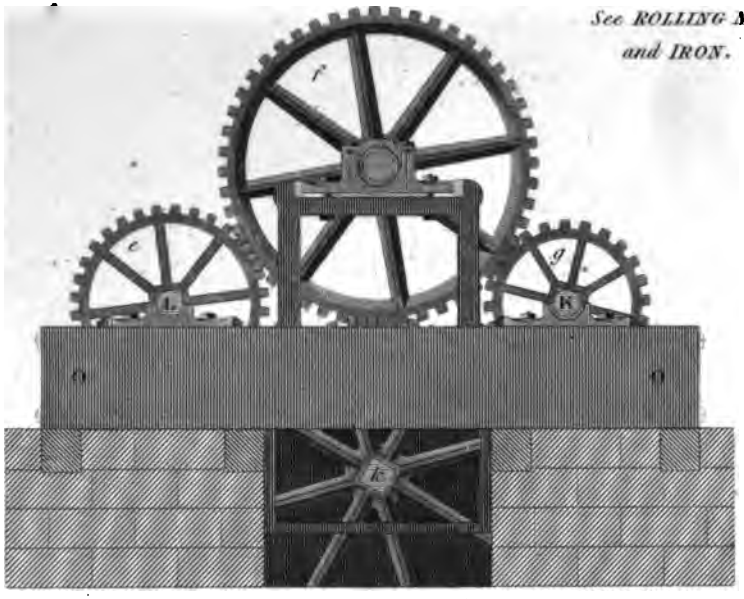
IRON MANUFACTURE.

Rolling and Slitting Mill, at Messrs. Walker's Iron Works, Rotherham.

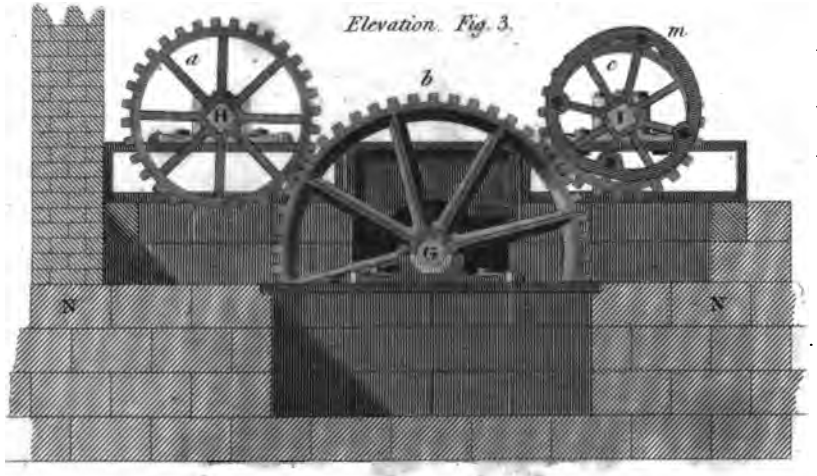
Elevation. Fig. 2.

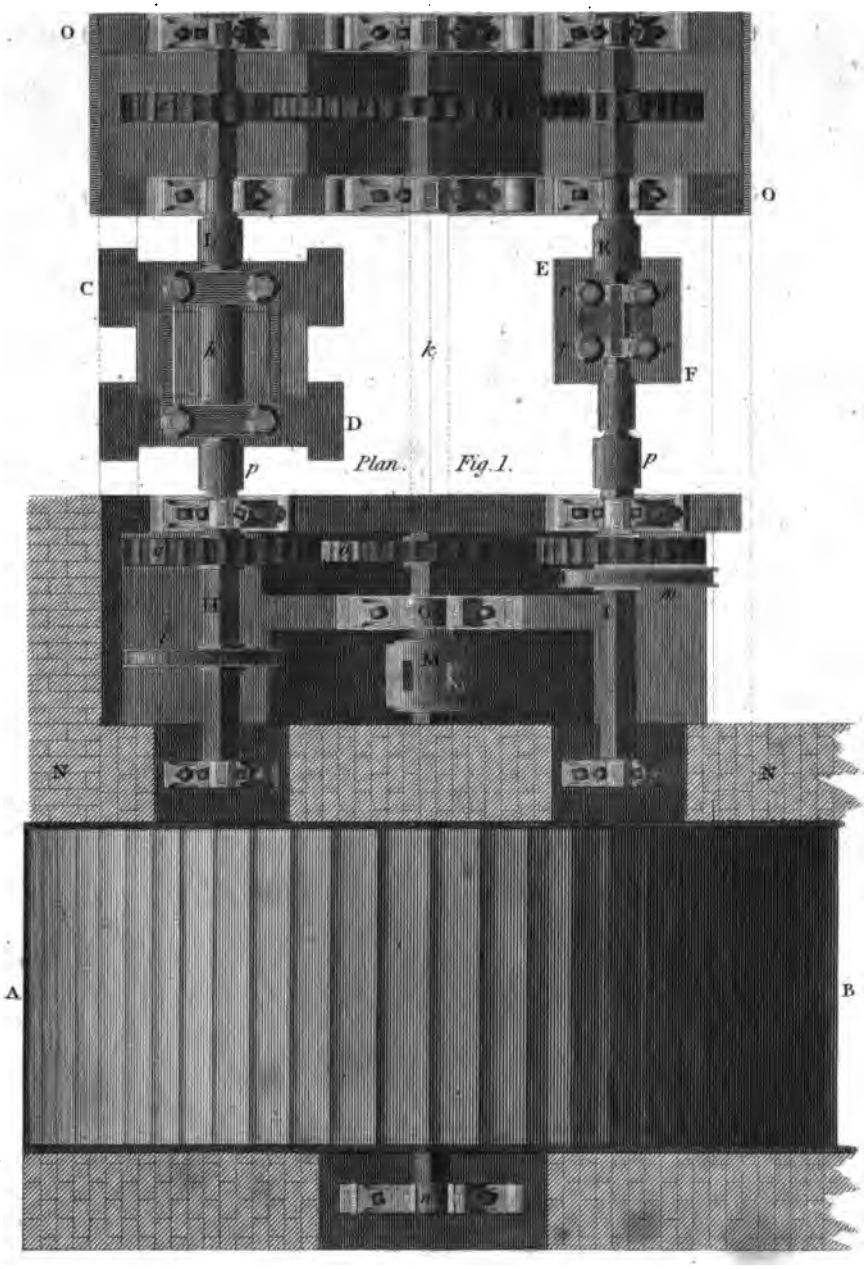


Scale of Feet.

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14

Elevation. Fig. 3.





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Lowry sculp.

IRON MANUFACTURE.

STEEL CONVERTING FURNACE.

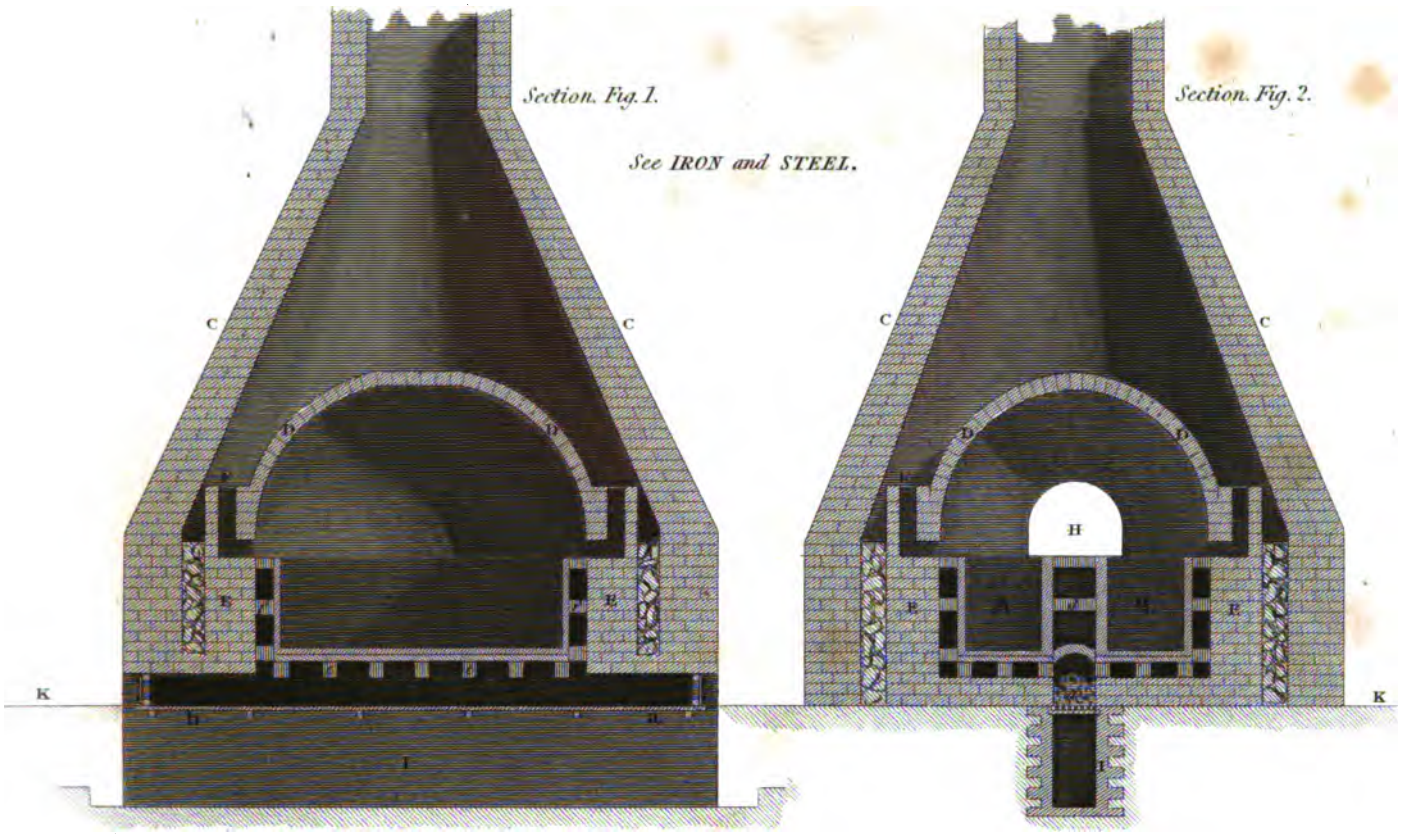


Fig. 4.

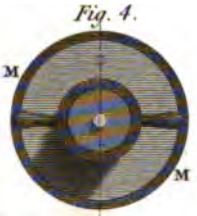


Fig. 7.

Fig. 6.

Mould for making Crucibles.

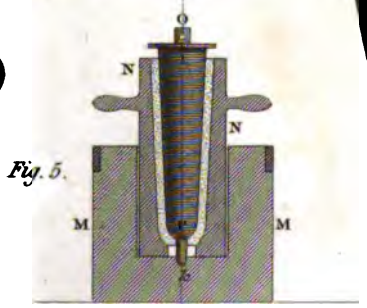
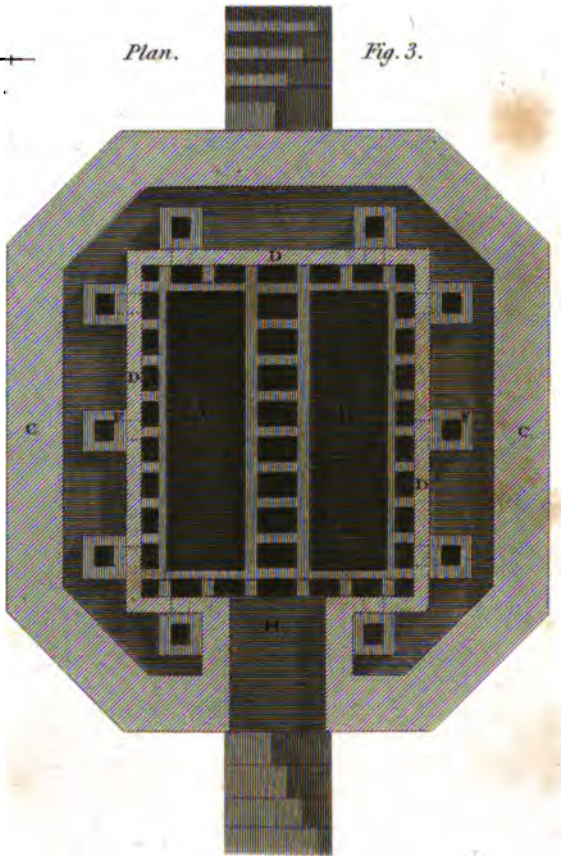


Fig. 5.

Plan. Fig. 3.



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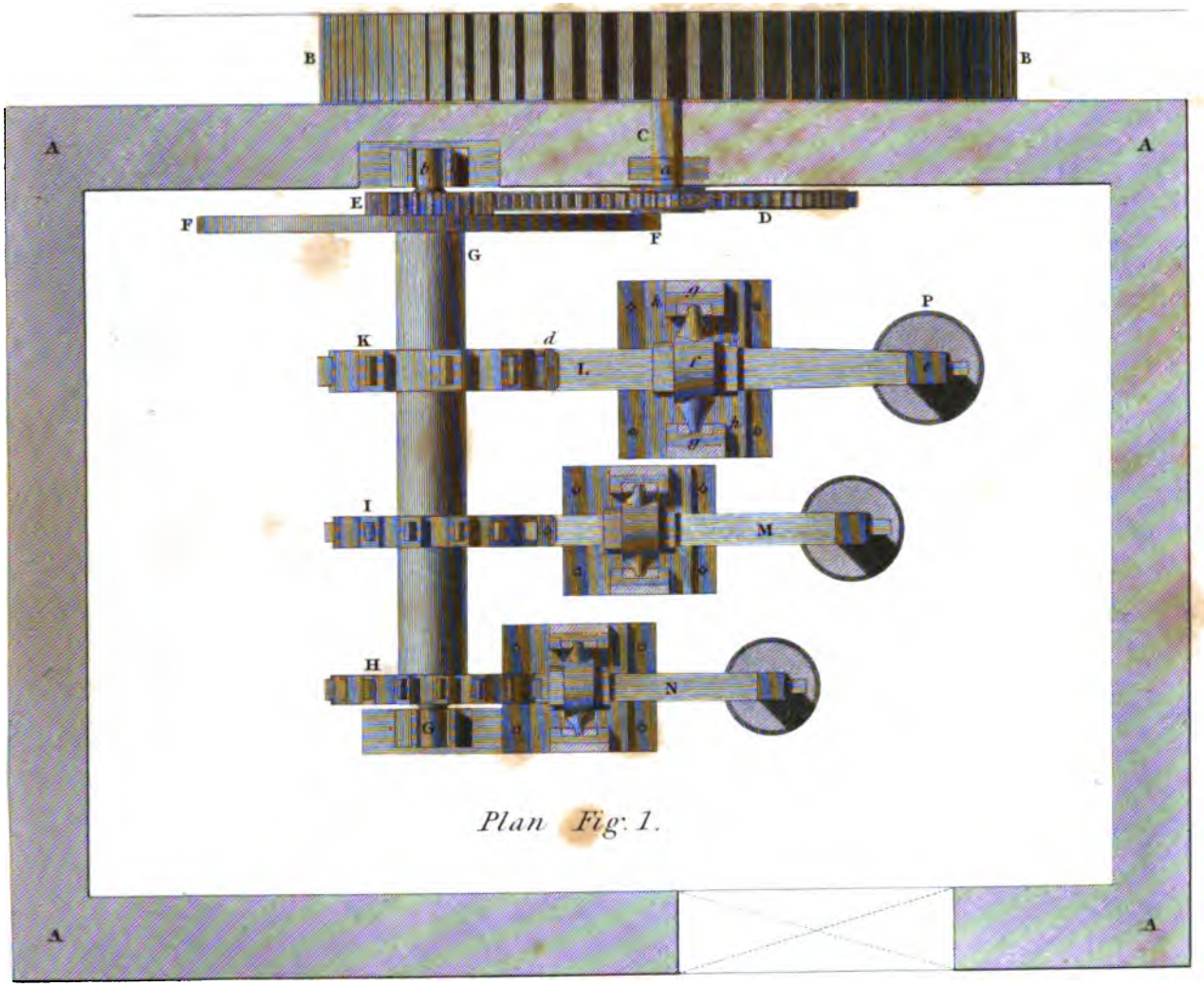
IRON MANUFACTURE.

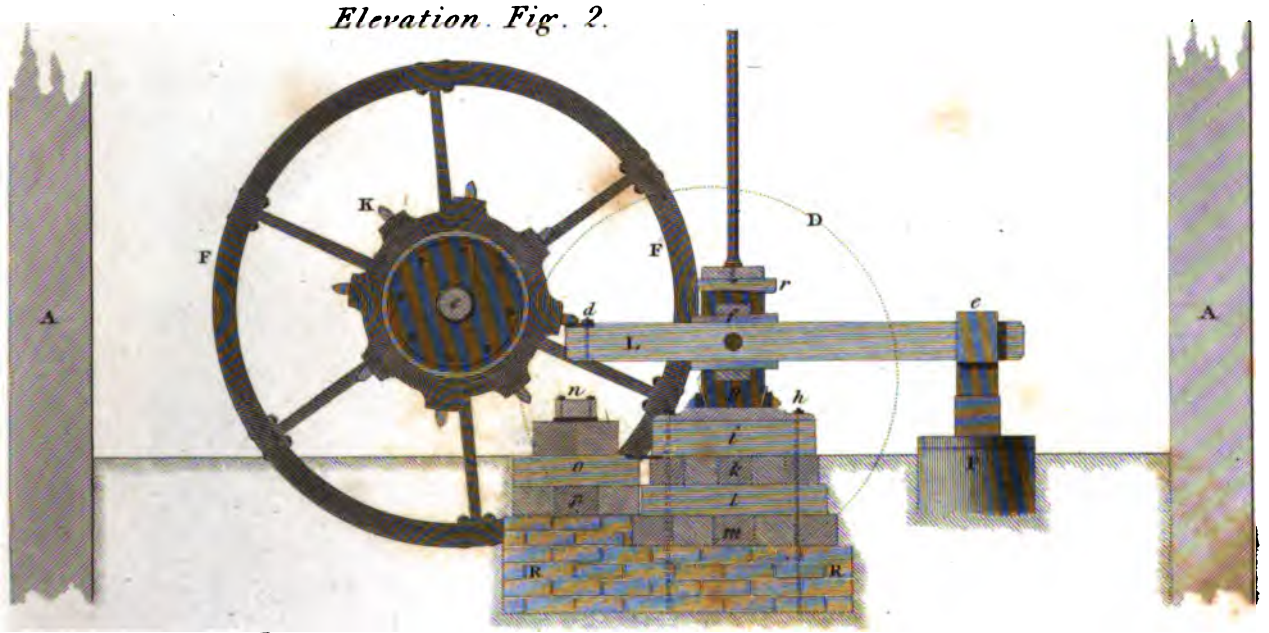
MILL FOR TILTING STEEL,

by Mr. Smeaton.



Plan Fig. 1.

Elevation. Fig. 2.



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LAMPS.

Argand's.

Fig. 1.

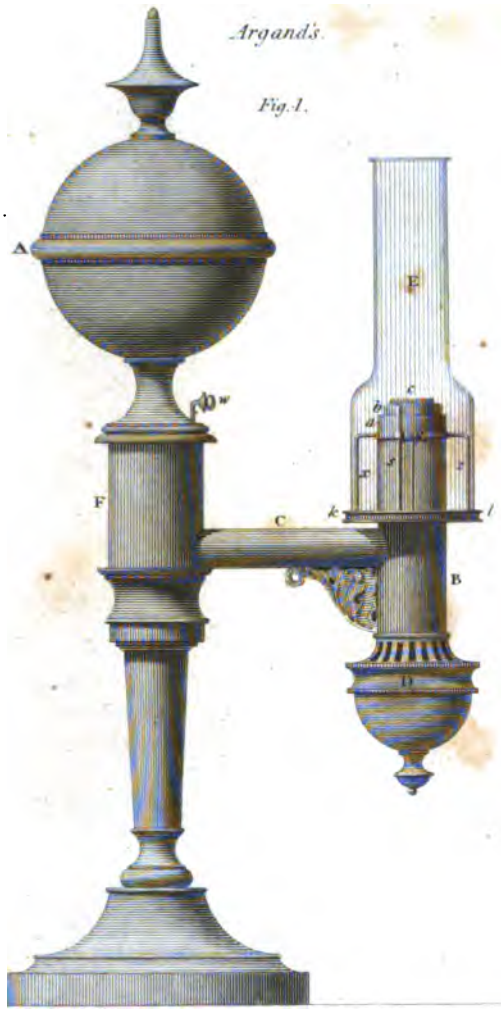


Fig. 6.

Mr. Kier's.

Fig. 5.

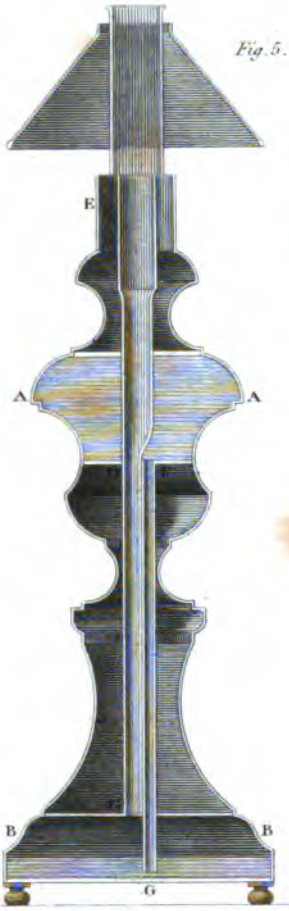


Fig. 2.

Fig. 3.

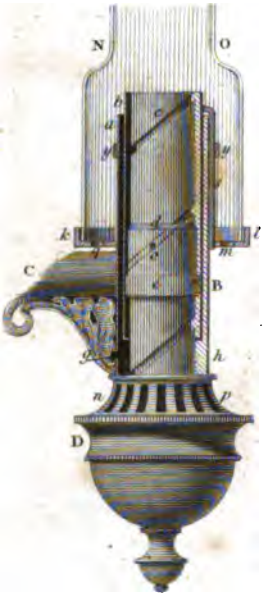
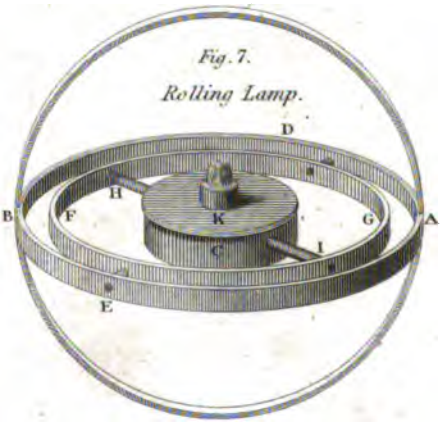


Fig. 4.

Lamp Cotton.

Fig. 7.

Rolling Lamp.



Facey del

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Hydro-Pneumatic Lamp by R. W. King.

Fig. 1.

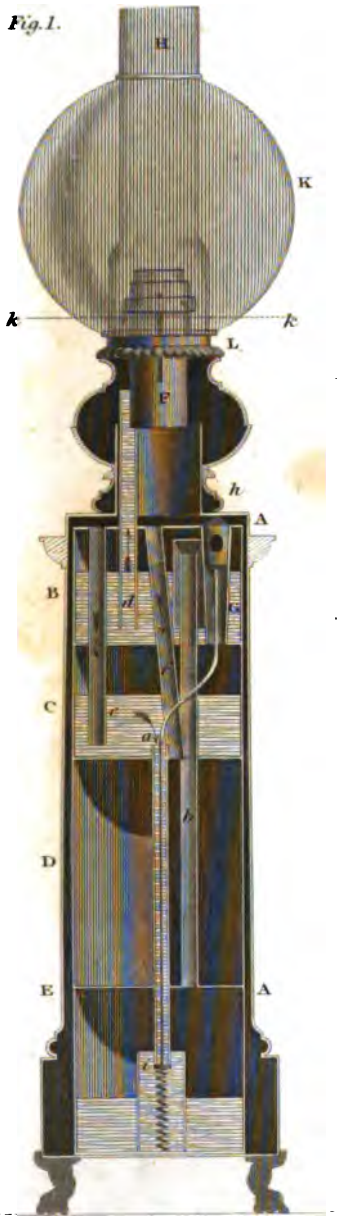


Fig. 2.

Fig. 4.

Fig. 3.

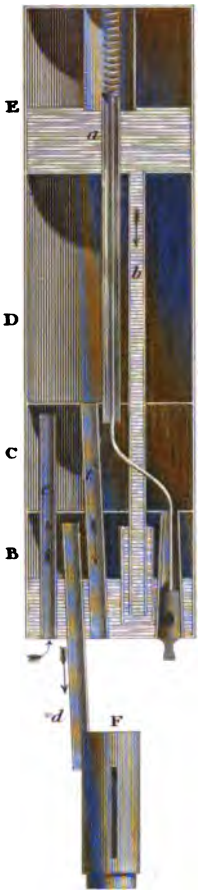
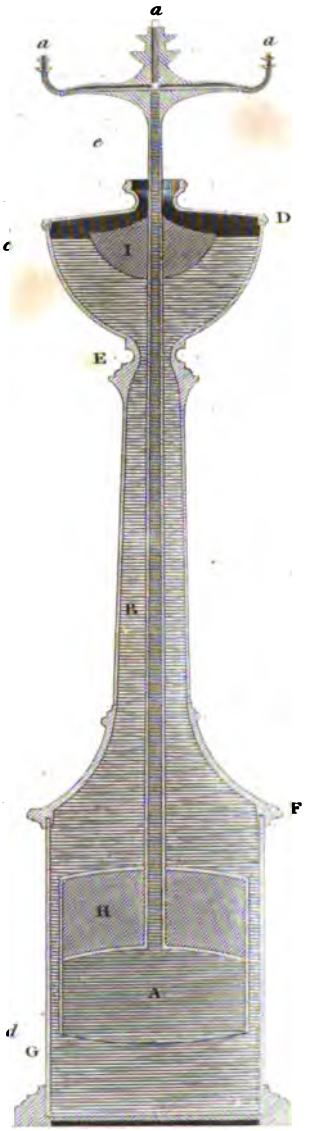


Fig. 5.

Mr Barton's Lamp.



Porter's Automaton Lamp.

Fig. 6.

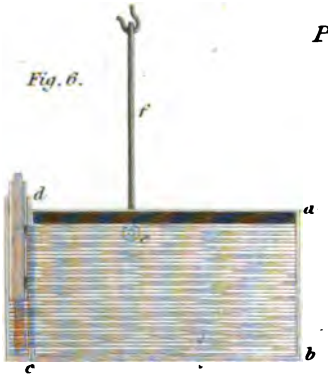


Fig. 7.

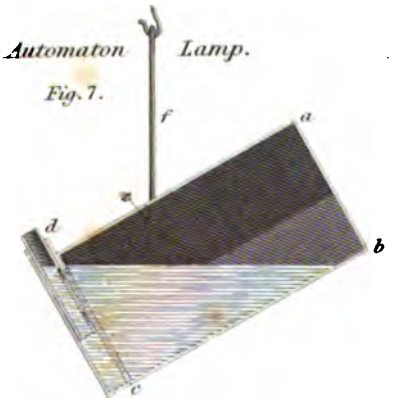
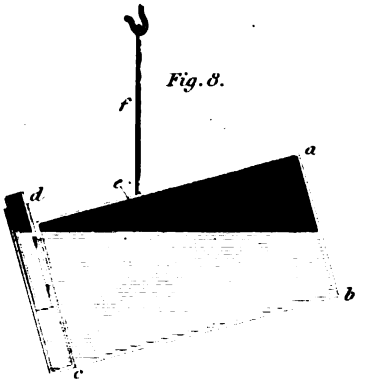


Fig. 8.



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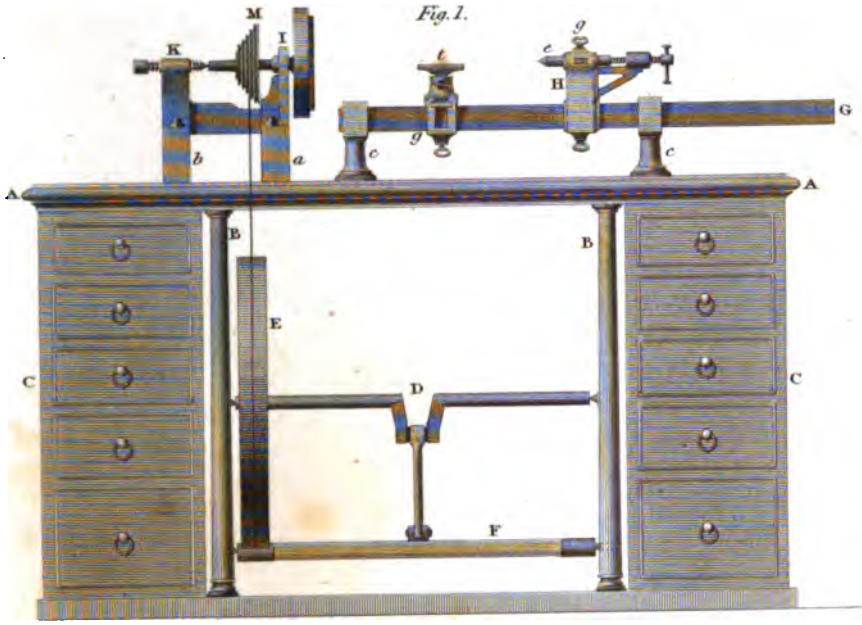
LATHE.

by M.r H. Maudslay.

Fig. 1.



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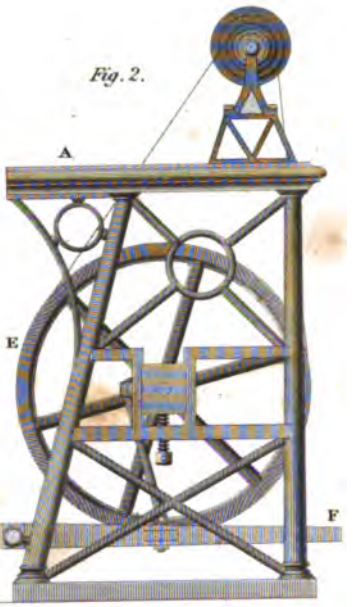
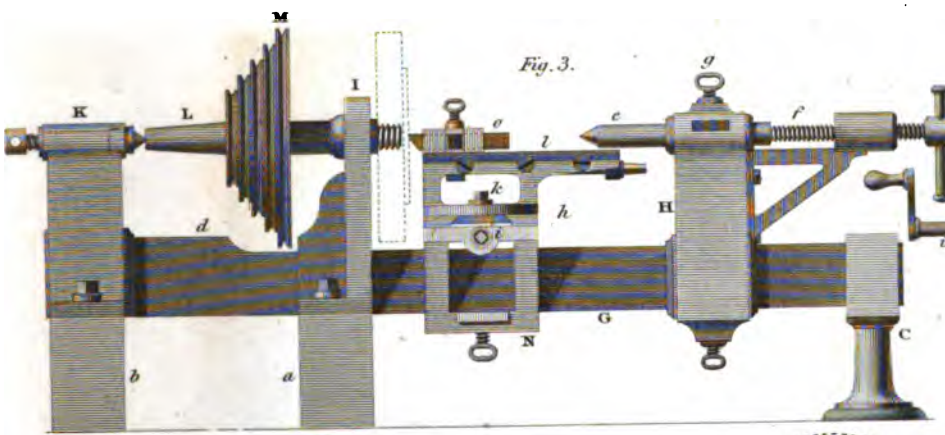


Fig. 3.



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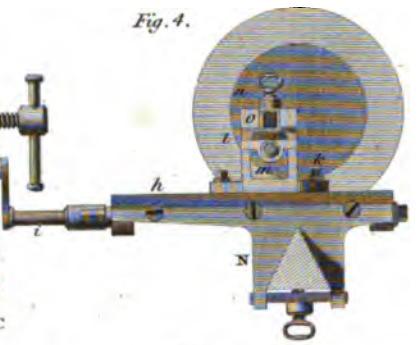

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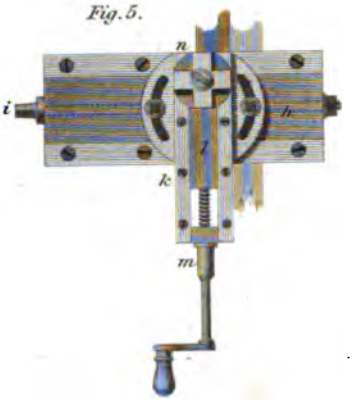


Fig. 6.

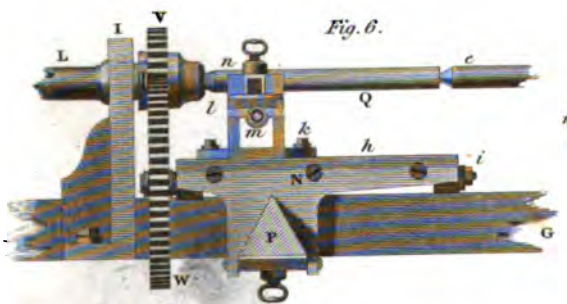
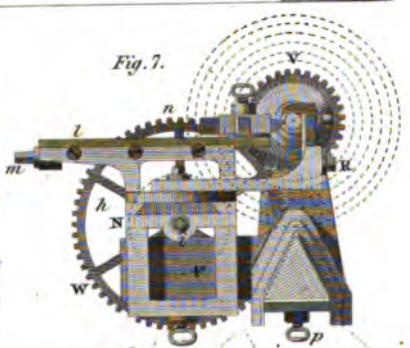


Fig. 7.



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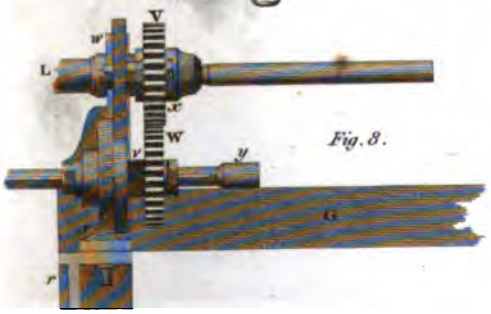


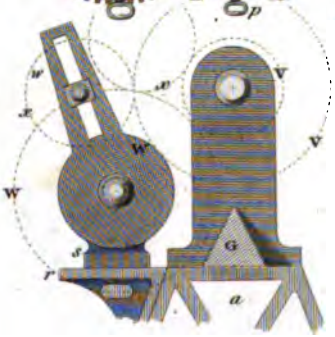
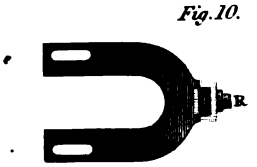


Fig. 9.

Fig. 10.



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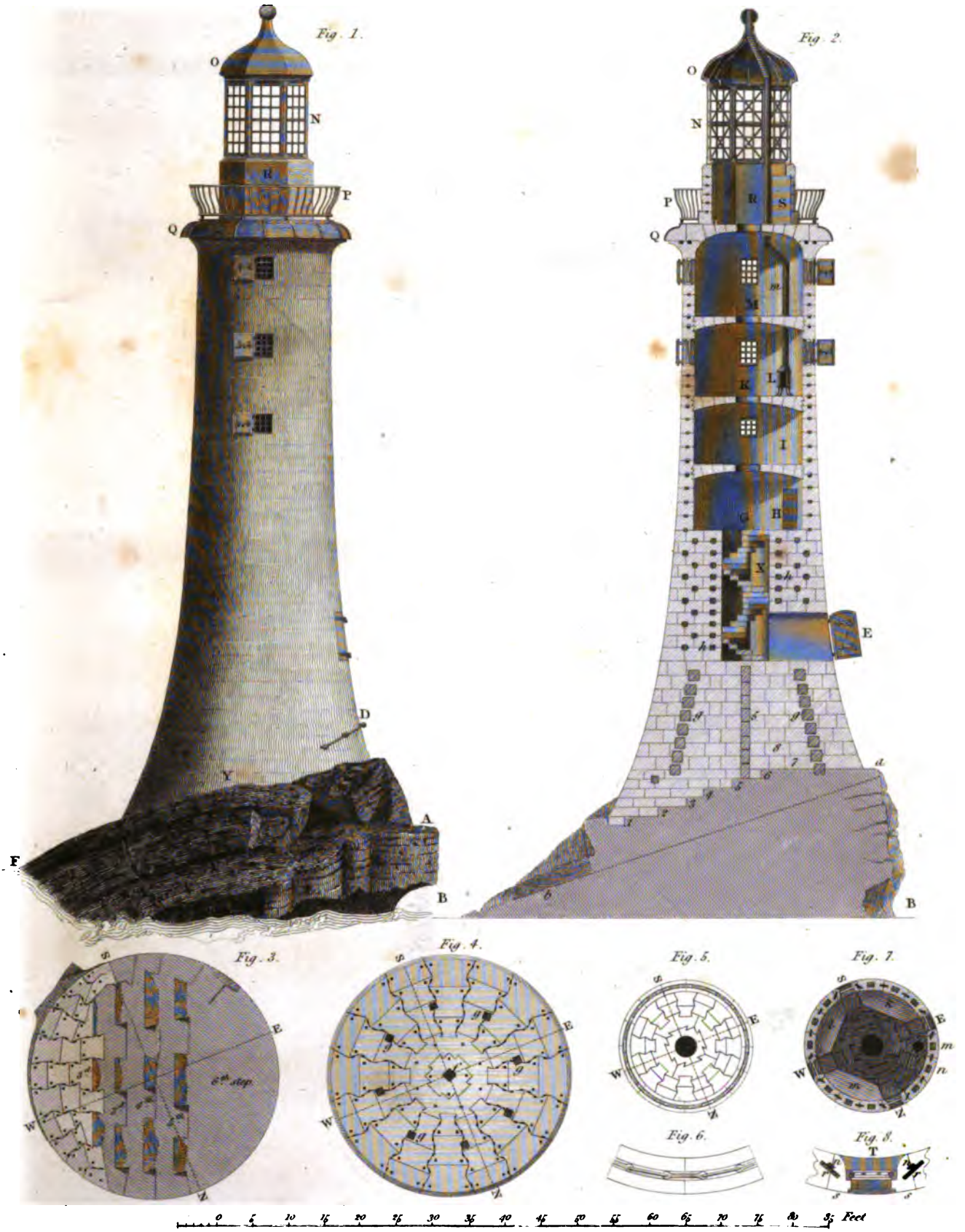
LIGHT HOUSE.

LIGHT HOUSE on the Eddystone Rock.



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MAGNETISM.

COMPASS.

Fig. 1.

Fig. 2.

Fig. 3.

Fig. 5.

Fig. 4.

Fig. 8.

Fig. 9.

Fig. 7.

Fig. 6.

Fig. 11.

Fig. 10.

Fig. 12.

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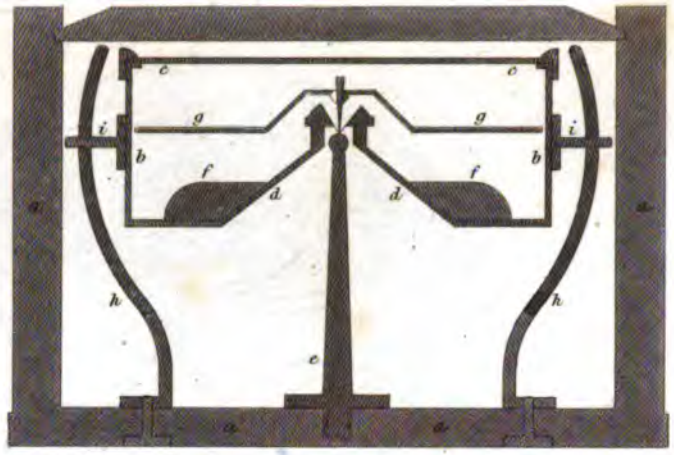
MAGNETISM.

COMPASS.

Fig. 14.

Fig. 13.



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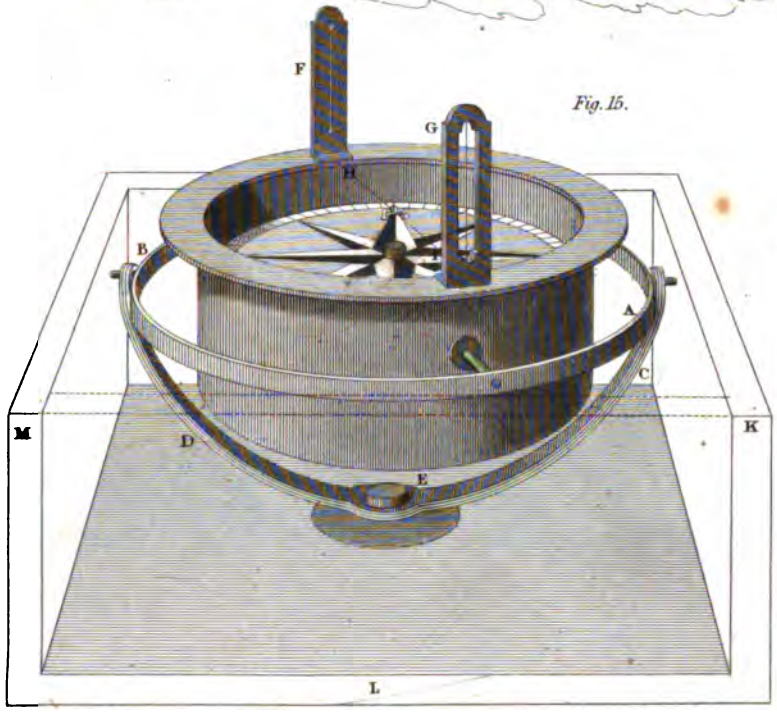
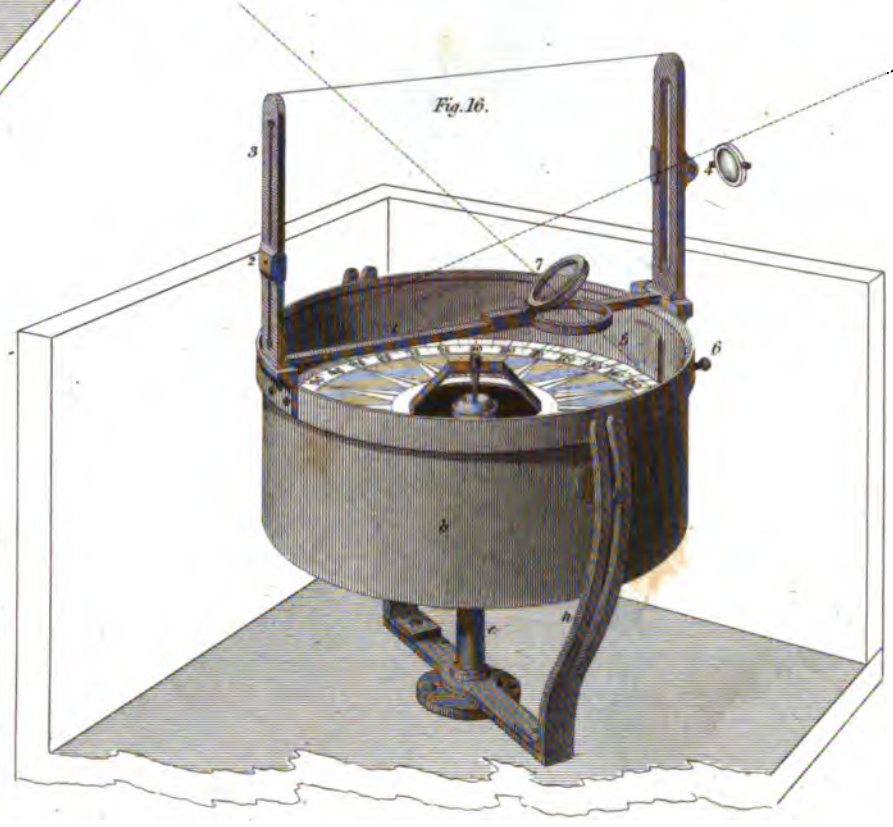


Fig. 16.



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VARIATION COMPASS.

Fig. 17.

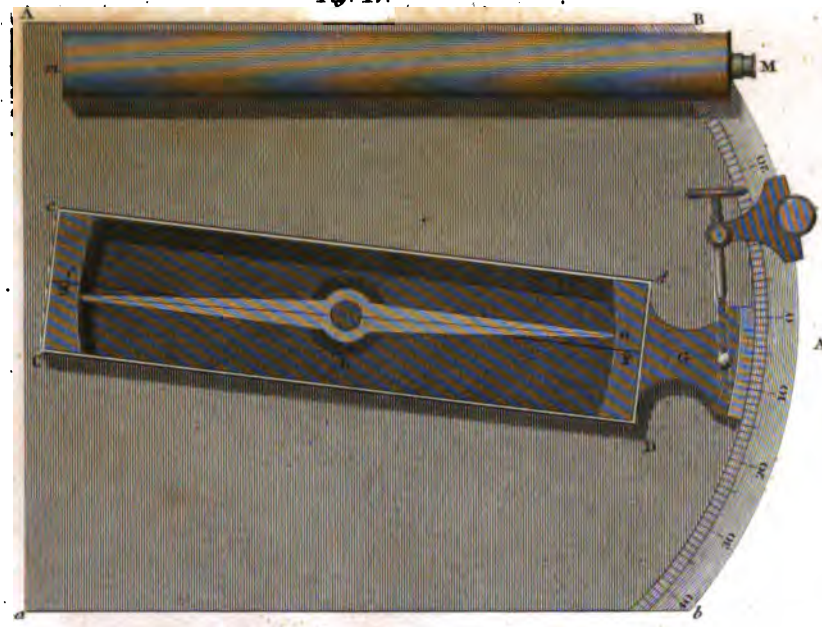


Fig. 19.

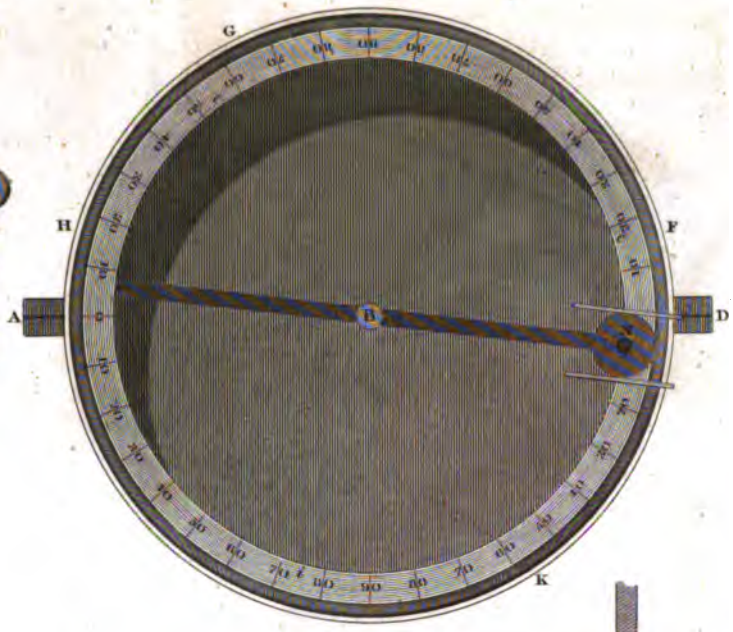
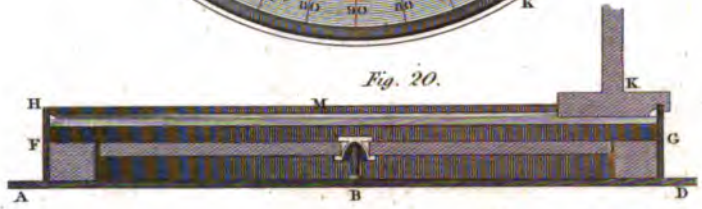


Fig. 20.



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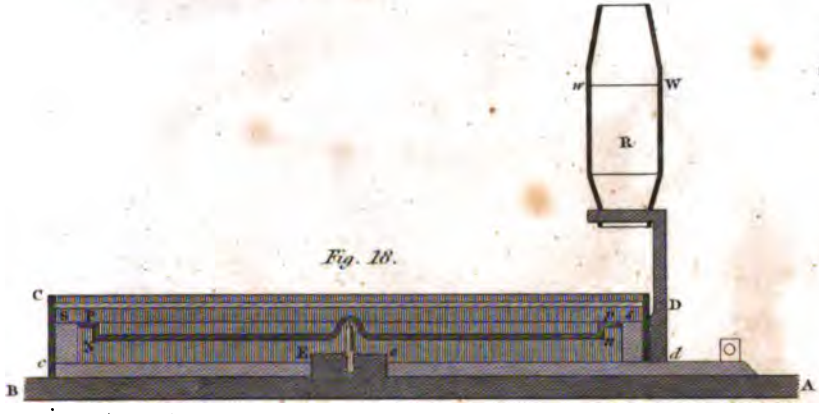

Fig. 22.

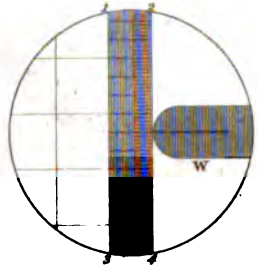

Fig. 21.

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DIPPING.

Fig. 22.

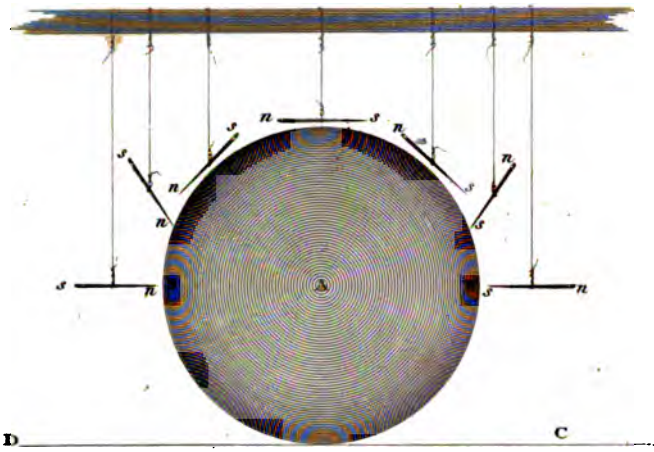
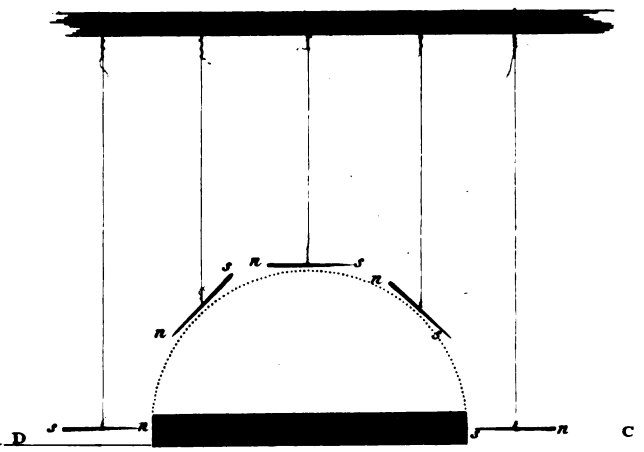


Fig. 23.



(for Fig. 27, see the next Plate)

Fig. 24.

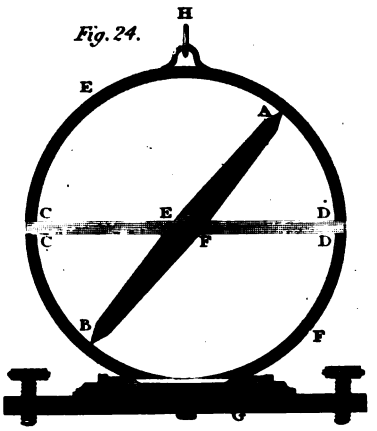


Fig. 29.

Fig. 3.

Dipping Needle by Dr. Lorimer

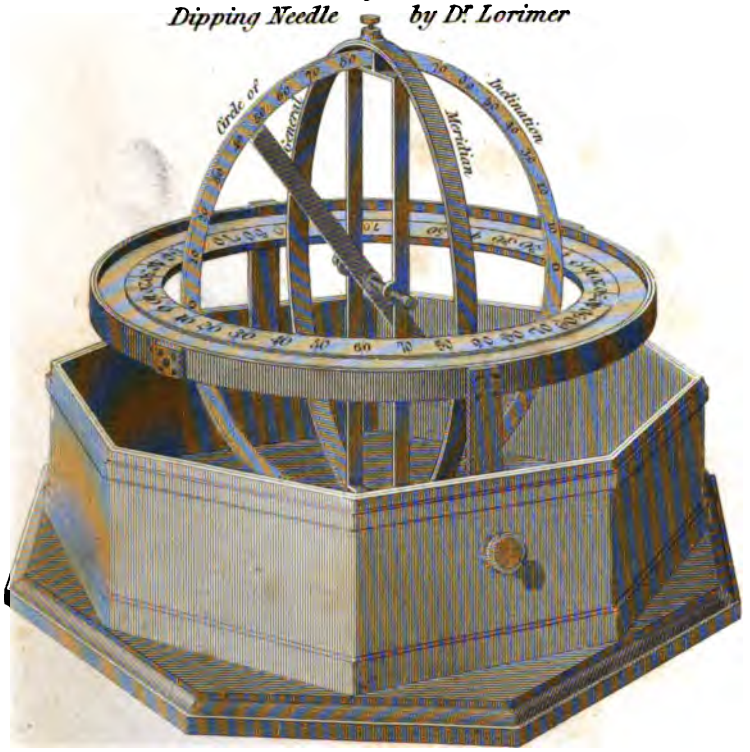


Fig. 25.

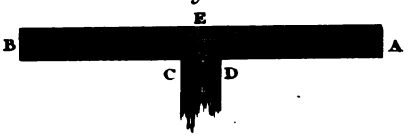


Fig. 26.

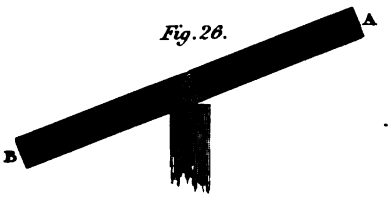
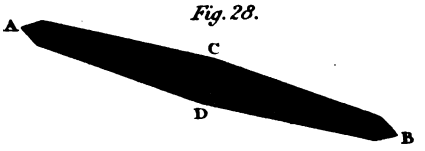


Fig. 28.



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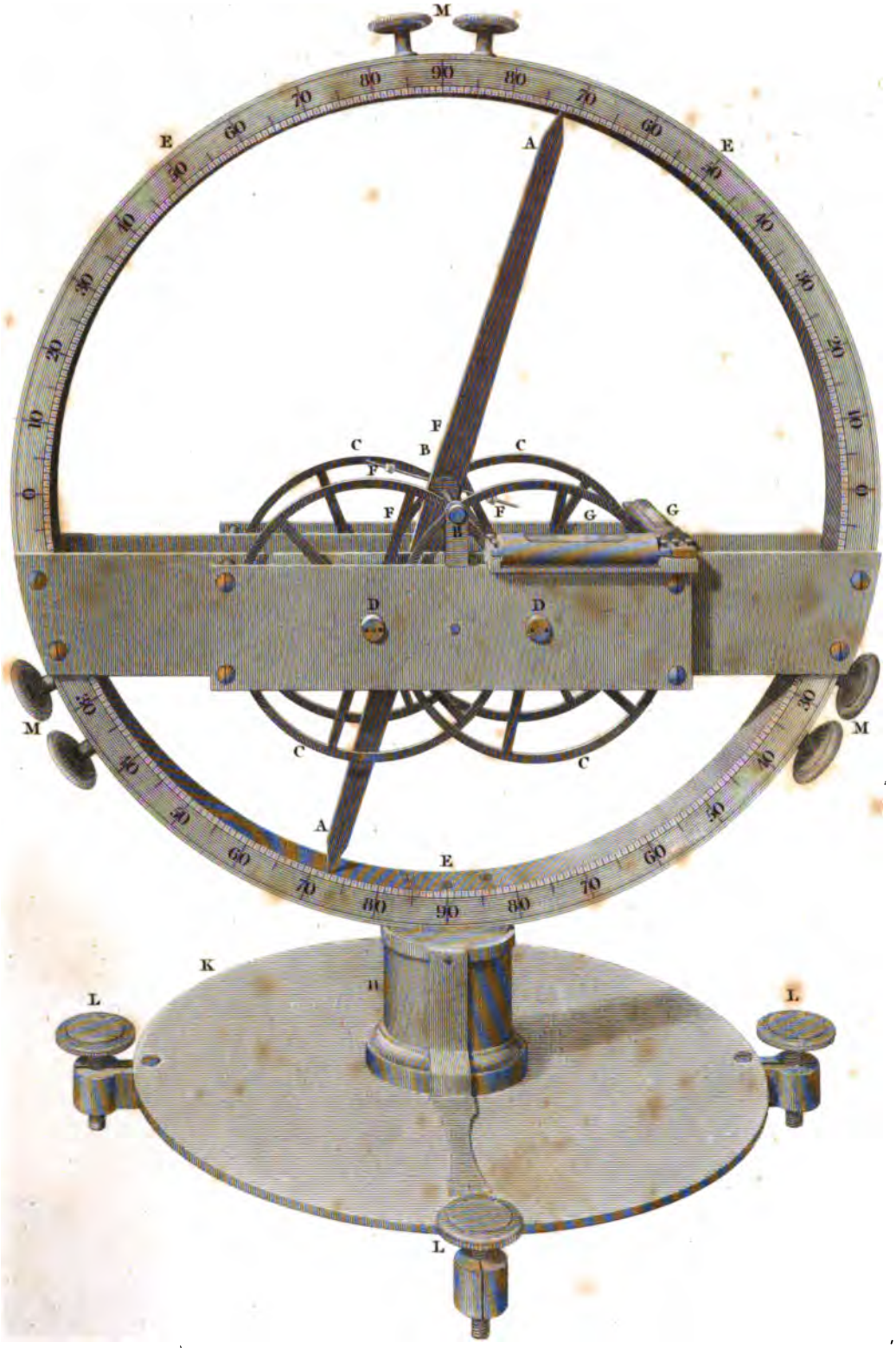
Dipping Needle made by M.r Nairne for the Board of Longitude, on the Plan of the Rev.d M.r Mitchel.



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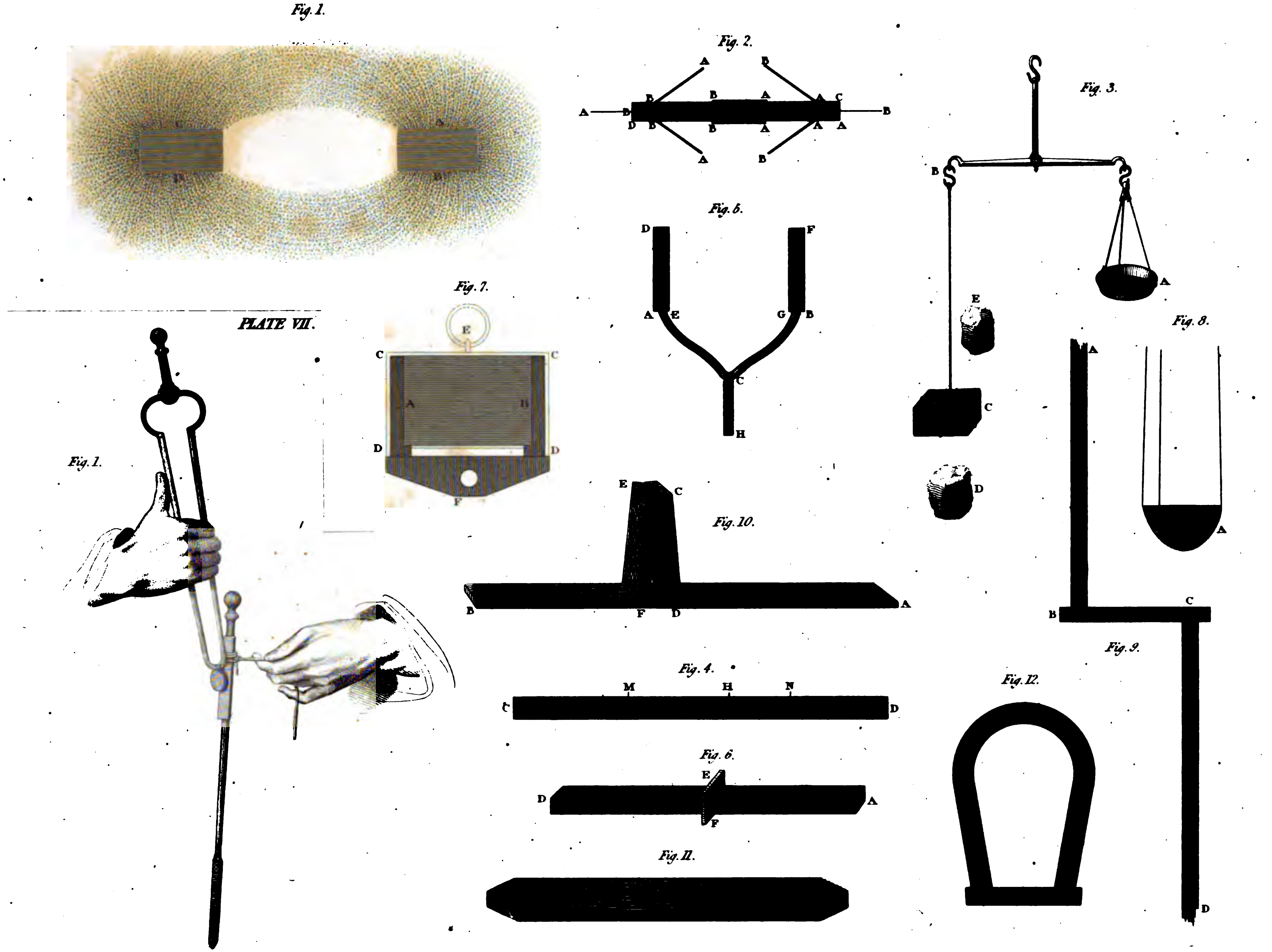
MAGNETISM.

MAGNET.



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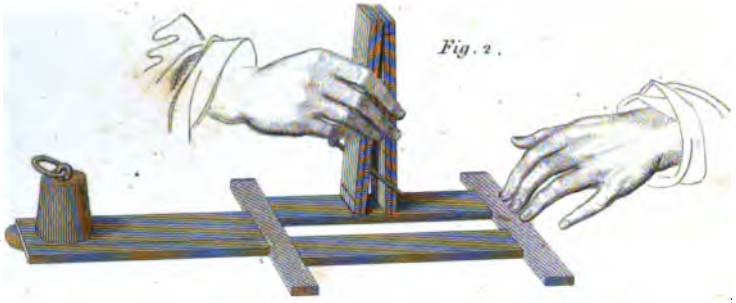
MAGNET.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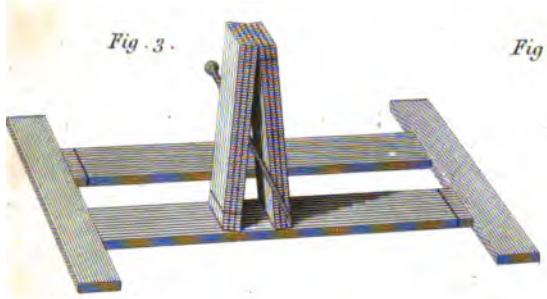
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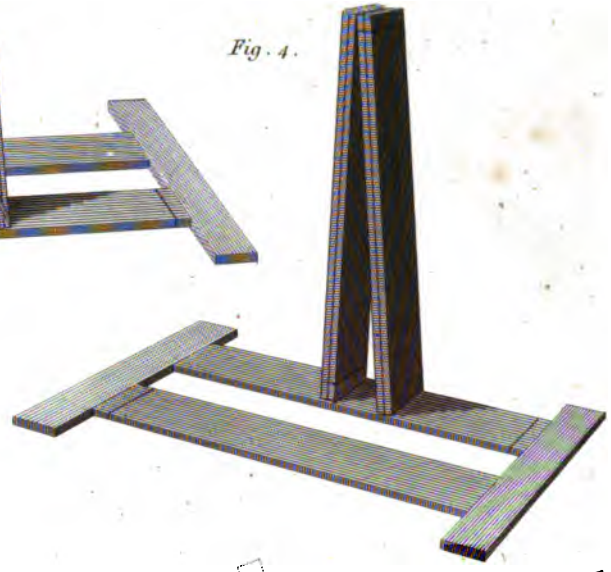
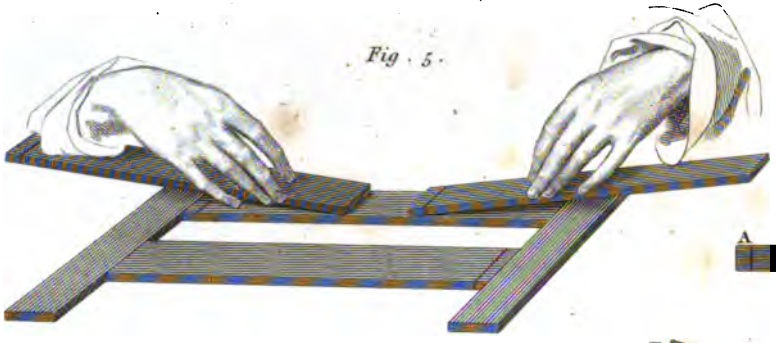


Fig. 4.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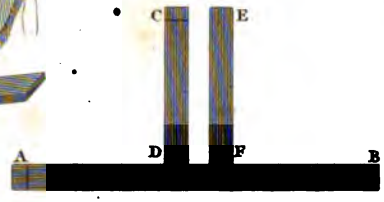

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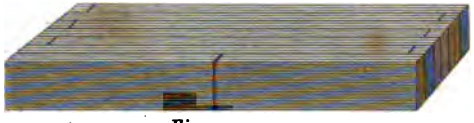


Fig. 6.

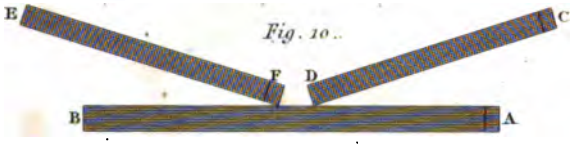
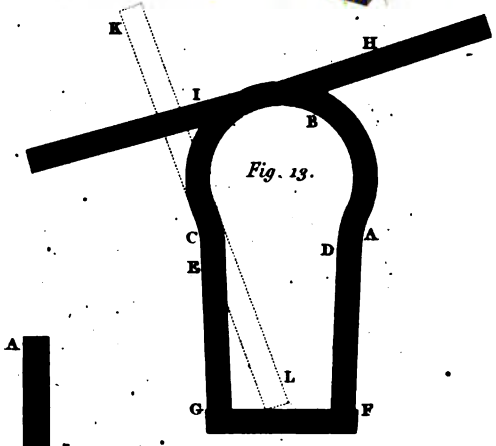


Fig. 10.



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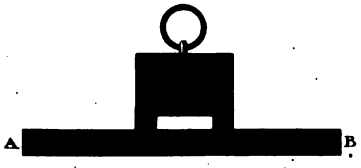


Fig. 11.

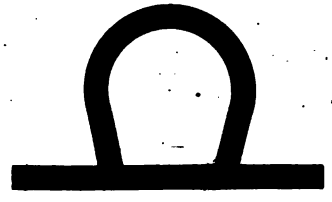
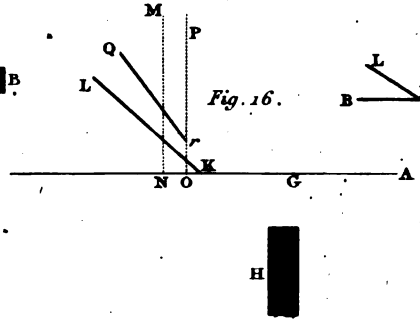


Fig. 12.



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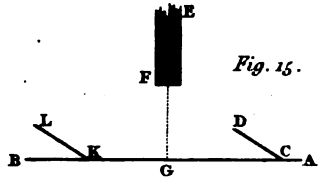

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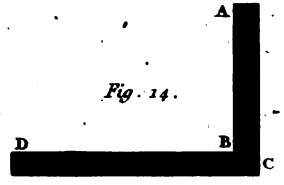

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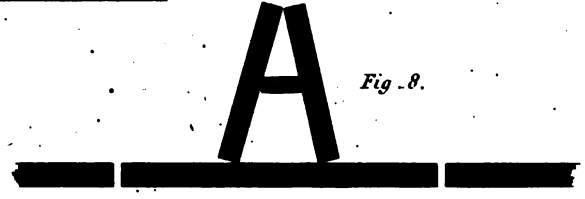
Fig. 8.

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Fig.2.
Incertain.

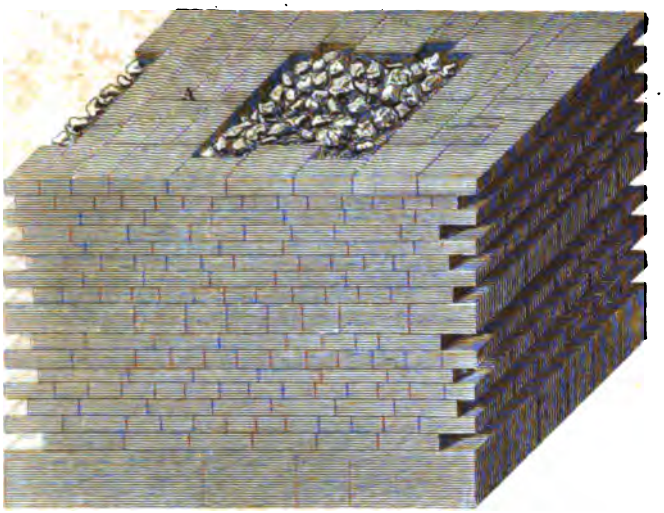


Fig.1.
Reticulated.

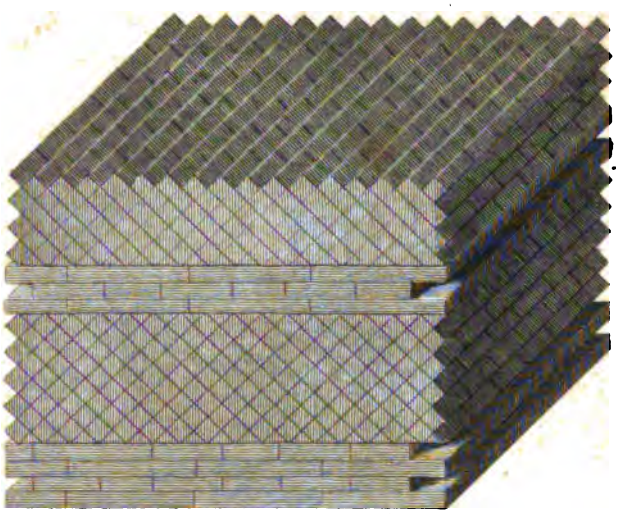


Fig.4.
Pseudisodomum.

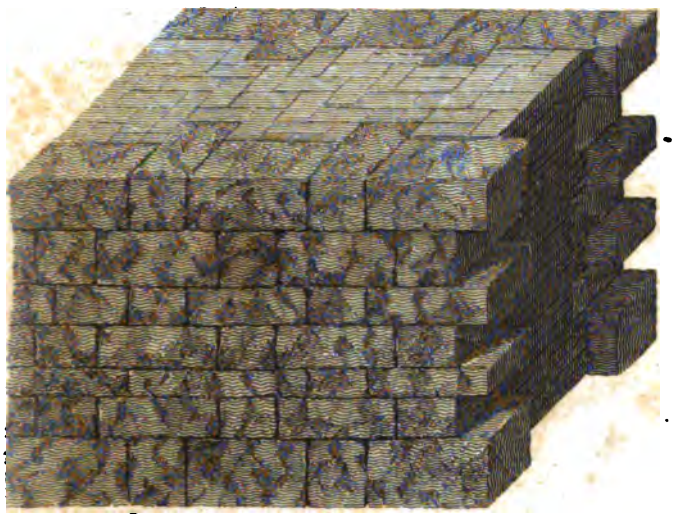


Fig.3.
Isodomum.

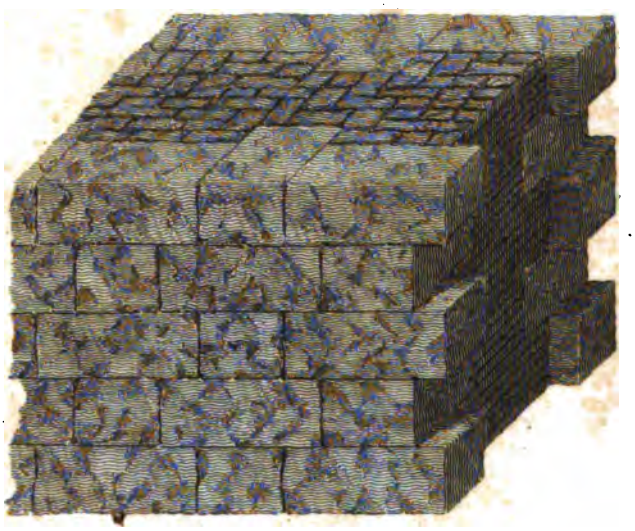


Fig.6.
Greek Emplection.

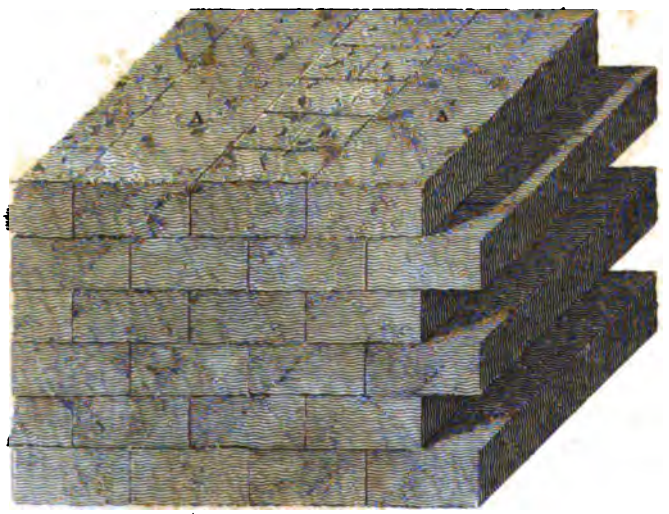
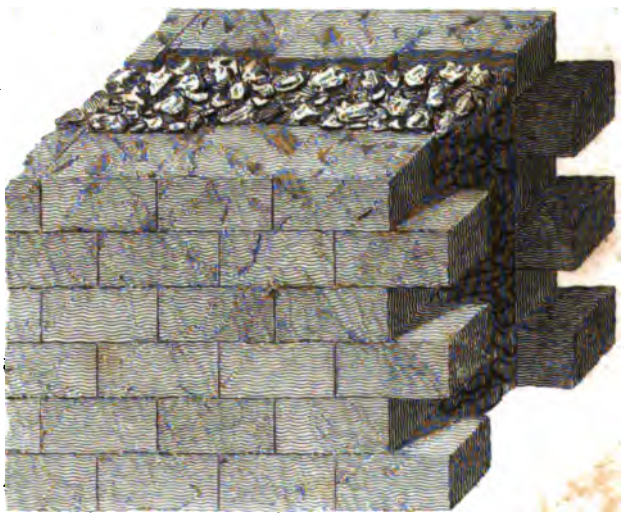


Fig.5.
Roman Emplection.



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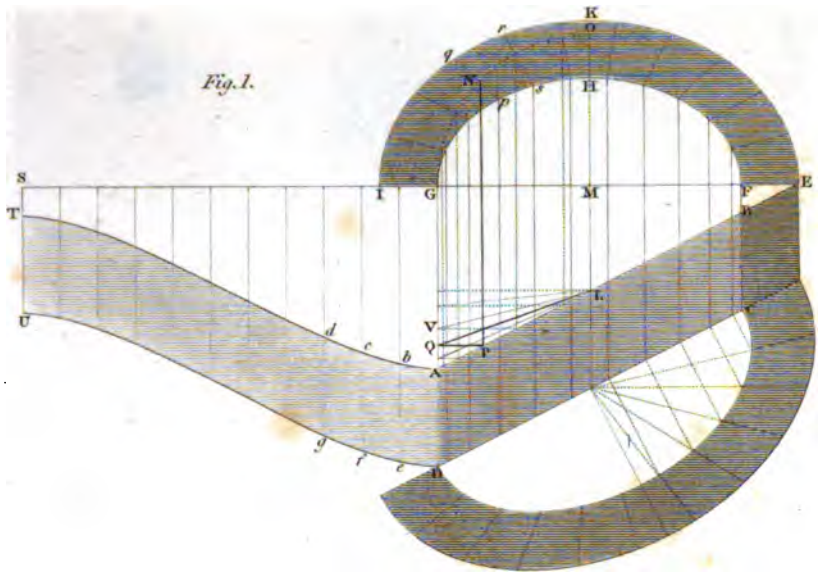
MASONRY.

ARCHES.

PLANO-CYLINDROIDIC ARCH.



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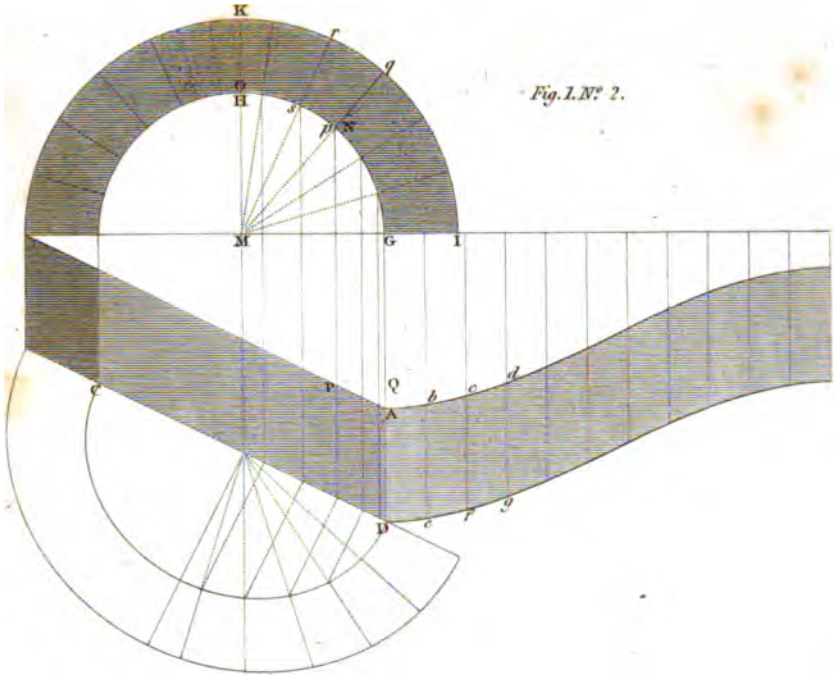
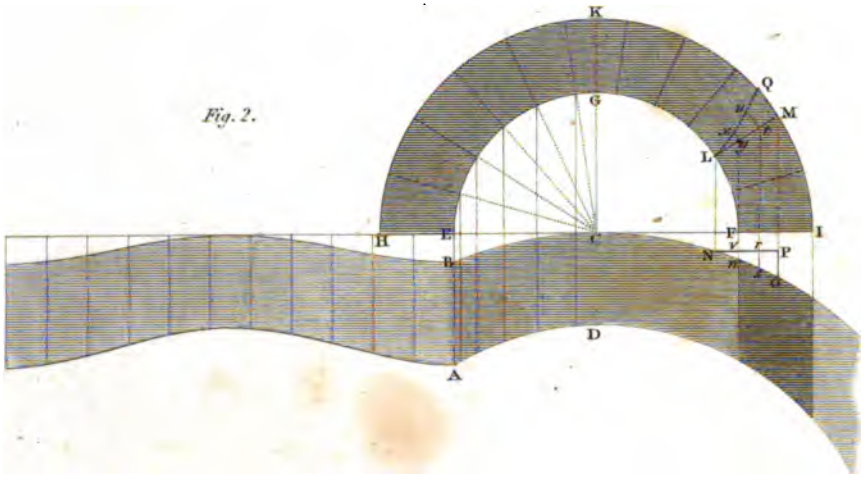


CYLINDRO-CYLINDRIC.



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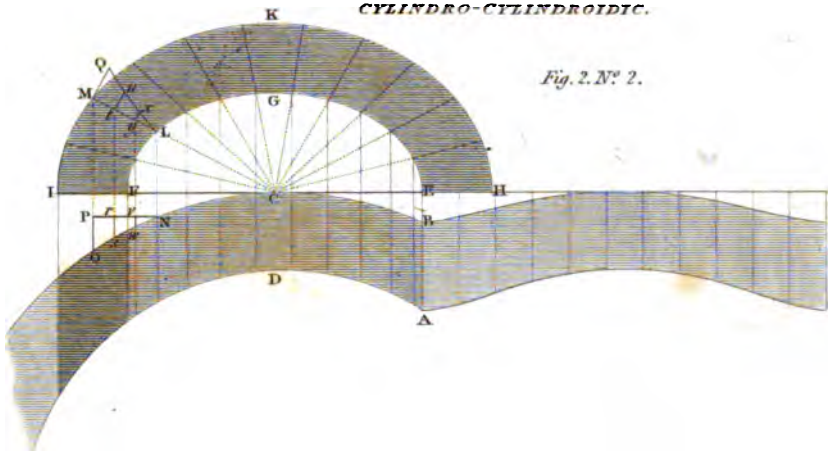

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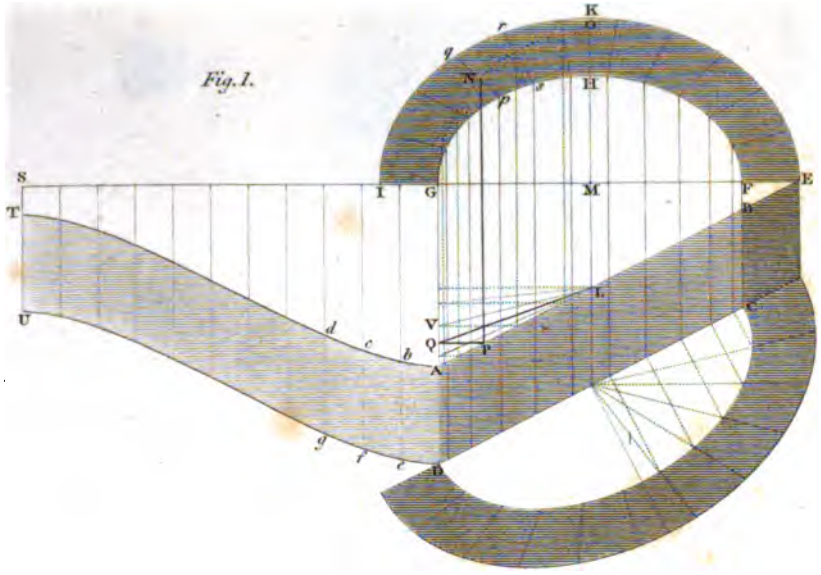
MASONRY.

ARCHES.

PLANO-CYLINDROIDIC ARCH.



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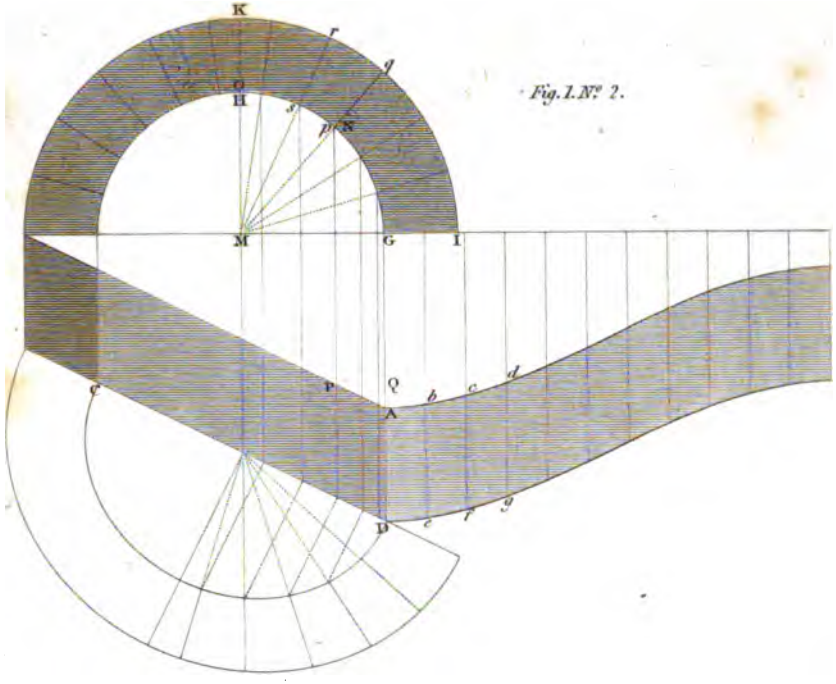

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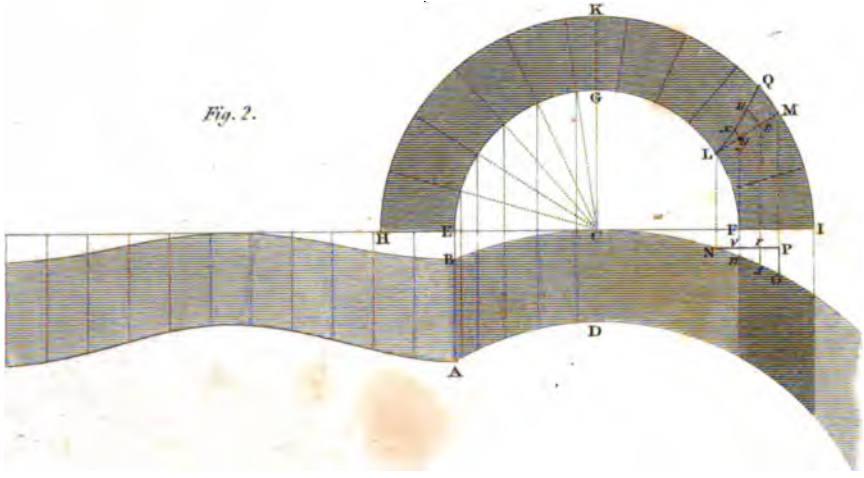

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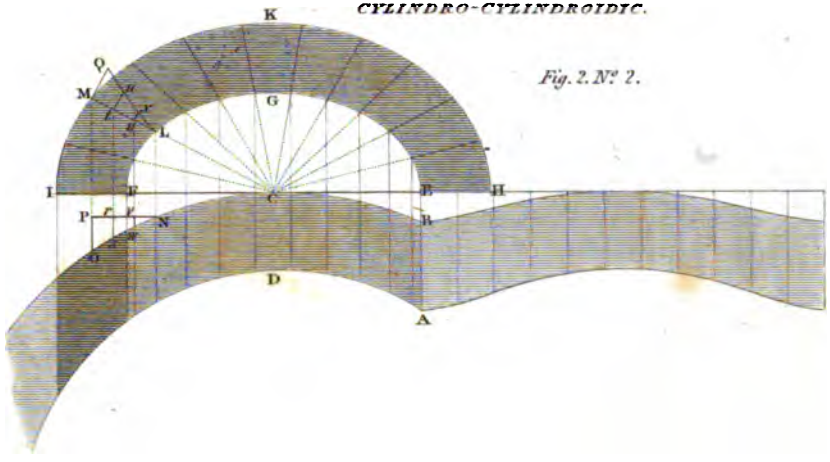

P. Nicholson. del.

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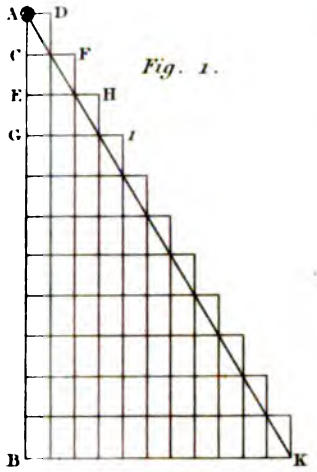


Fig. 1.

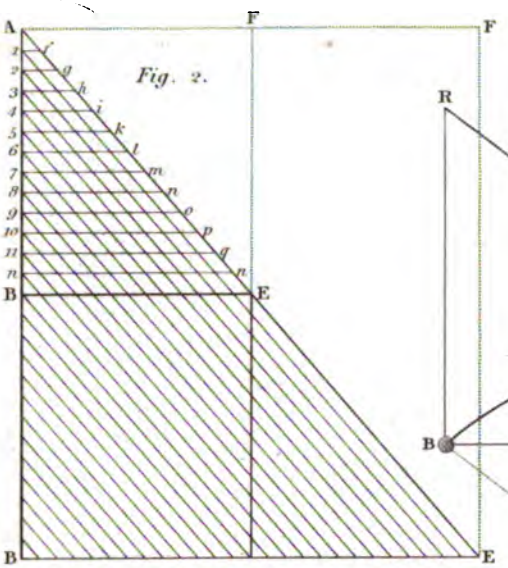
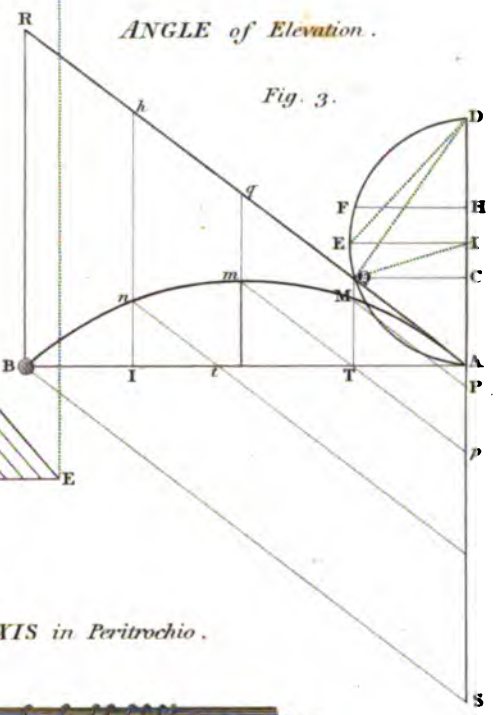


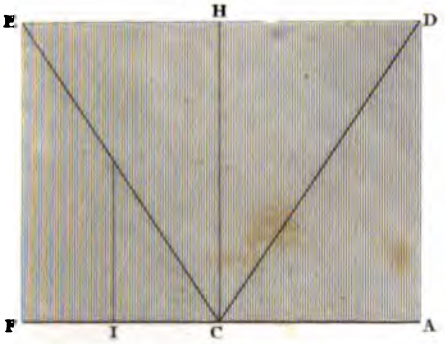
Fig. 2.

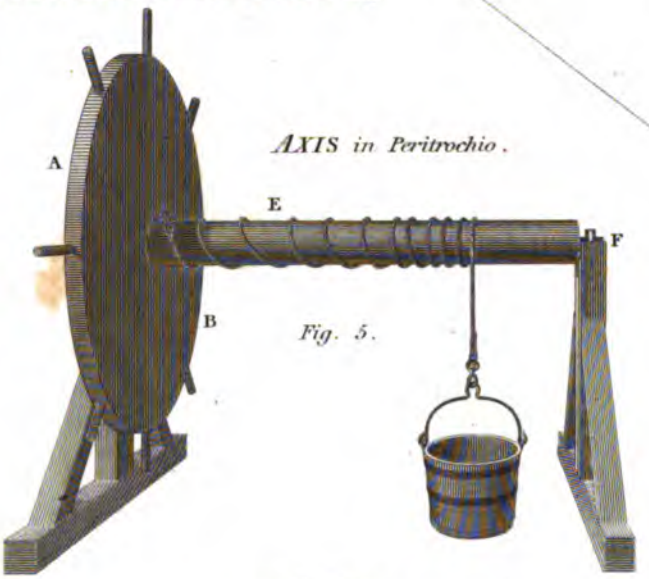


ANGLE of Elevation.

Fig. 3.

Fig. 4.





AXIS in Peritrochio.

Fig. 5.

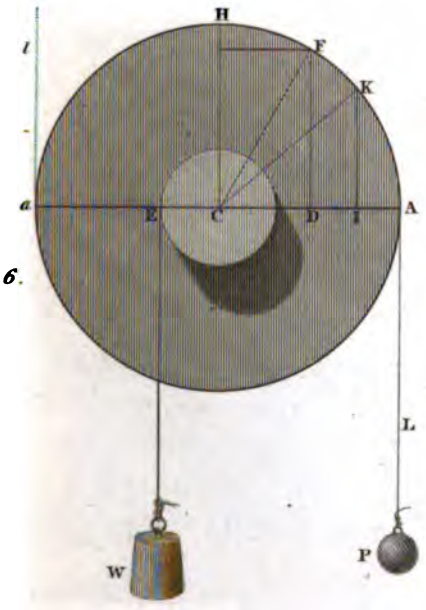
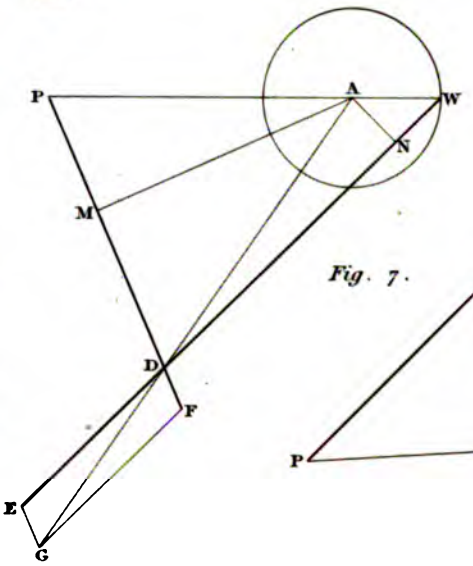


Fig. 6.



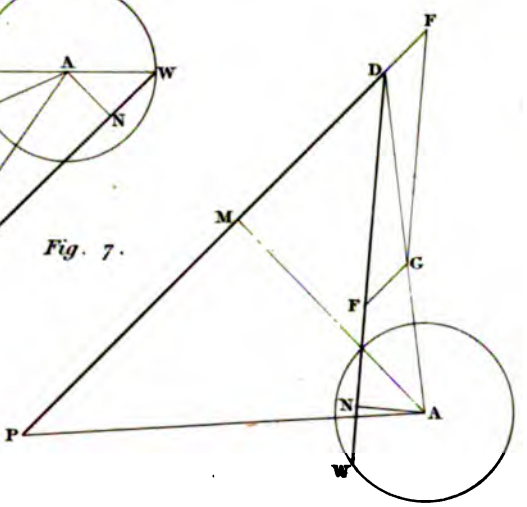


Fig. 7.

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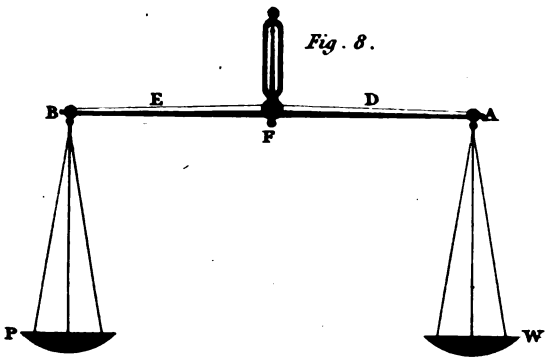
Fig. 8.



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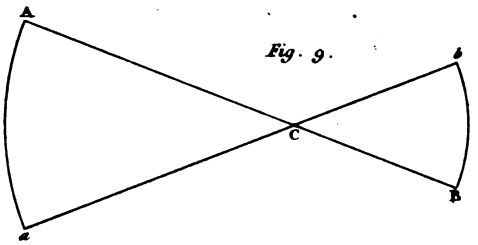

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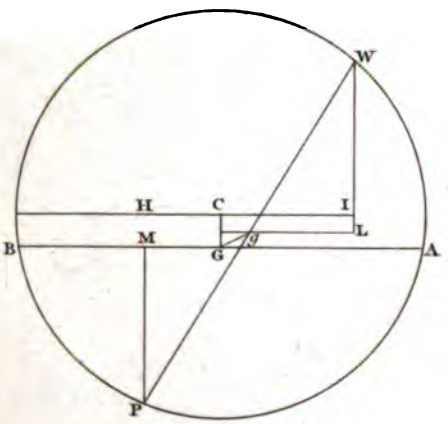

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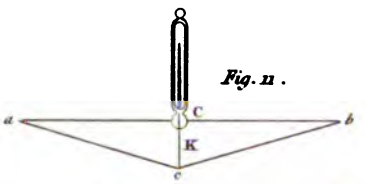

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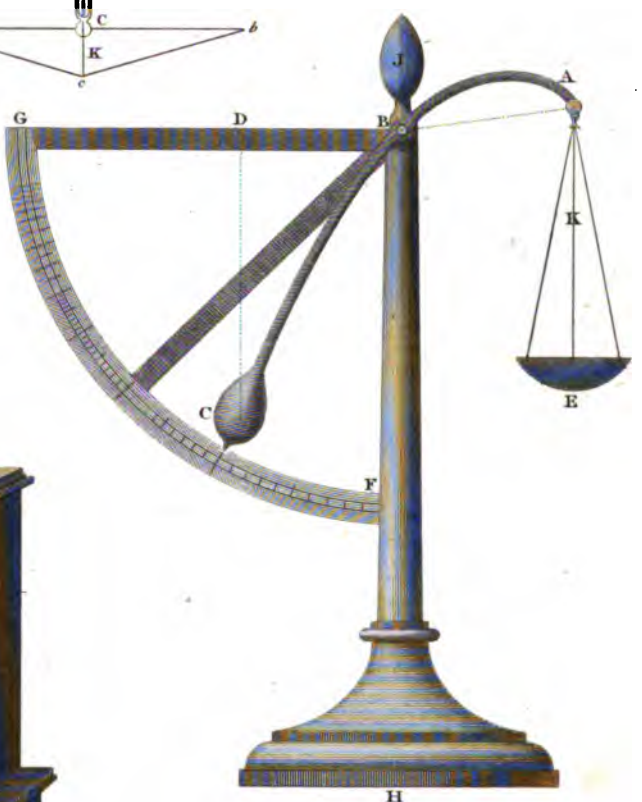

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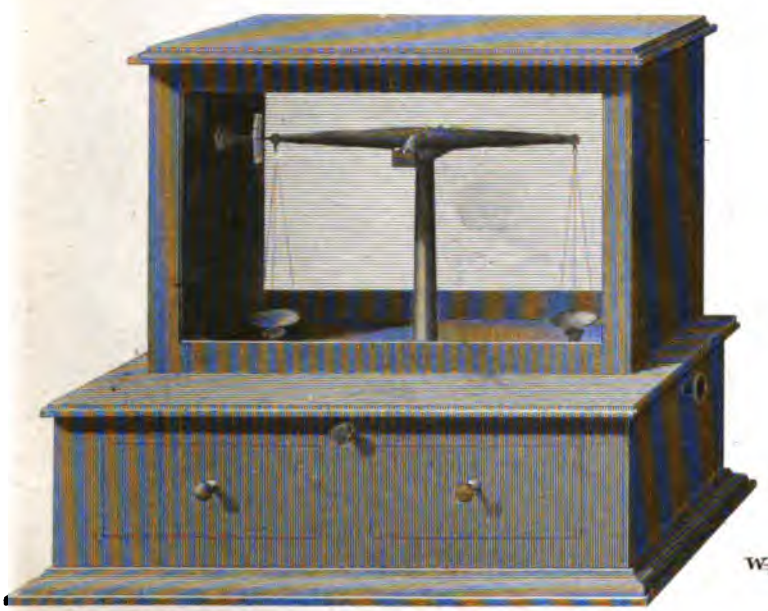

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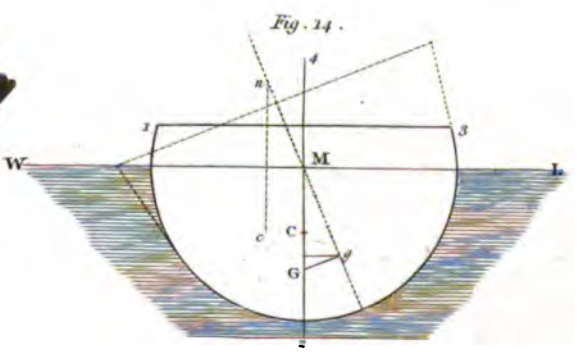

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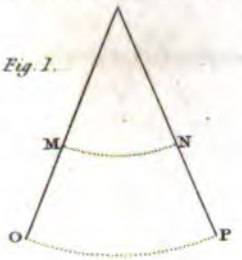
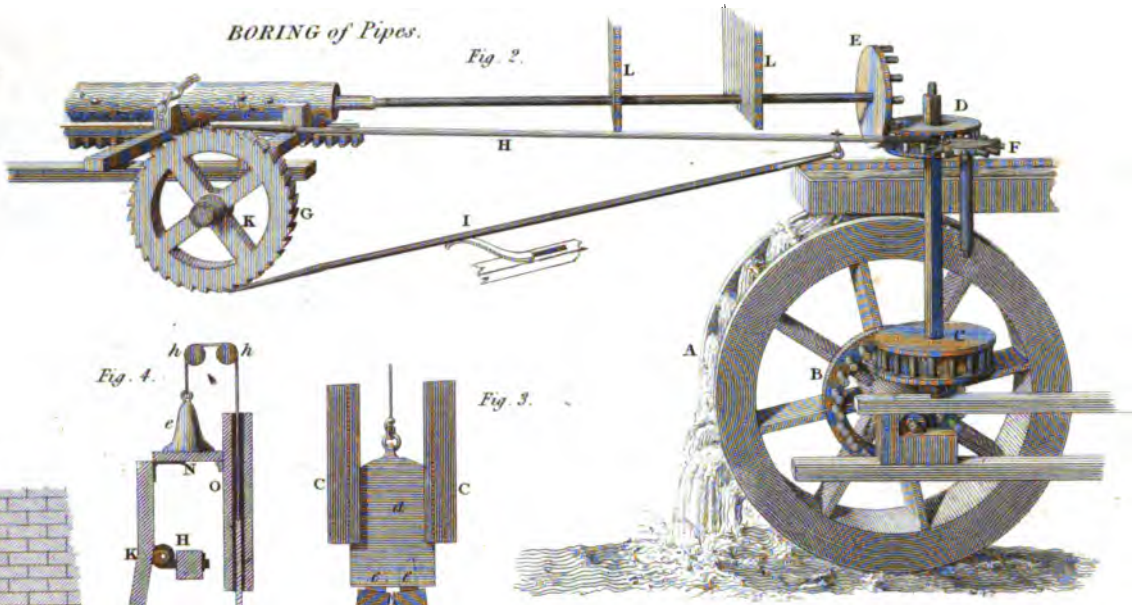
ANGULAR MOTION.

Fig. 1.



BORING of Pipes.

Fig. 2.



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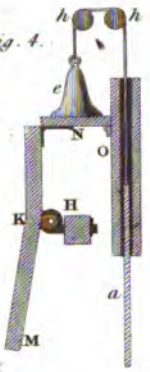
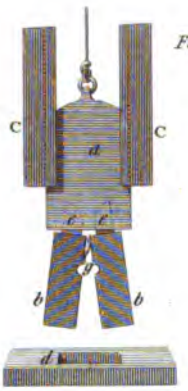
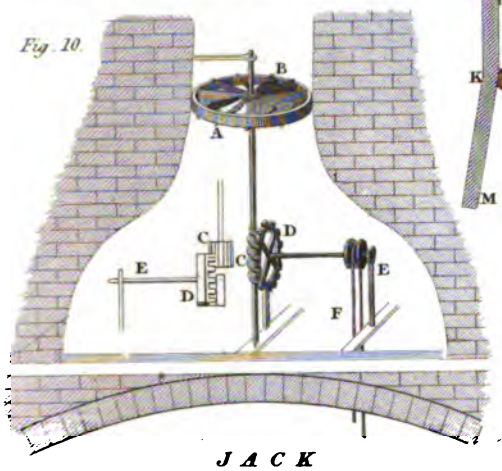


Fig. 3.



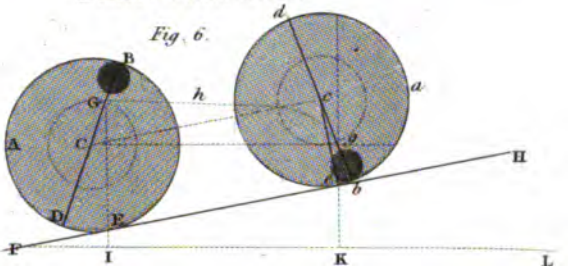
Smoke JACK.

Fig. 10.



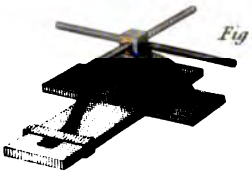
Double CYLINDER.

Fig. 6.



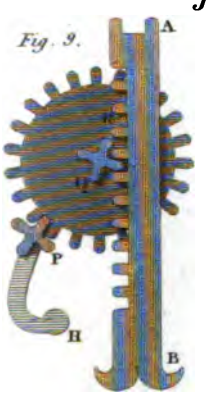
CRAB.

Fig. 5.



JACK

Fig. 9.



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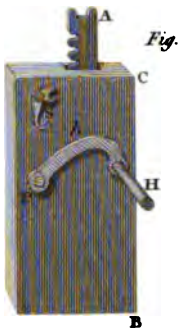

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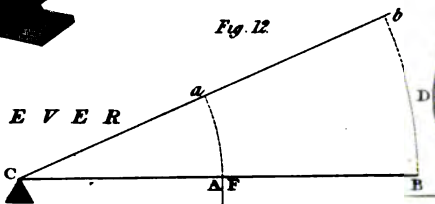
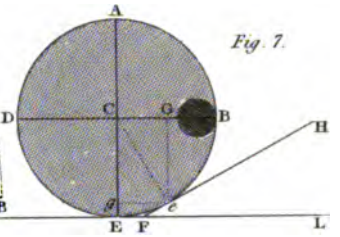


Fig. 7.



LEVER

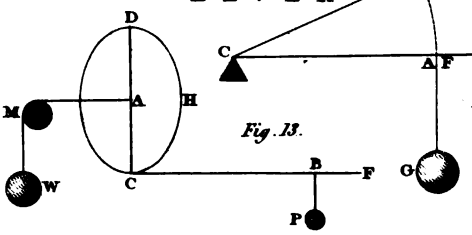
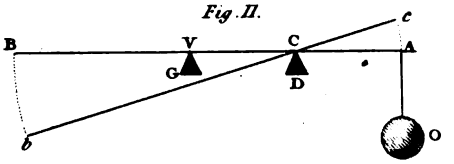


Fig. 13.

Fig. 11.



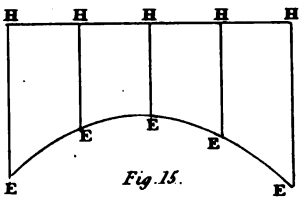
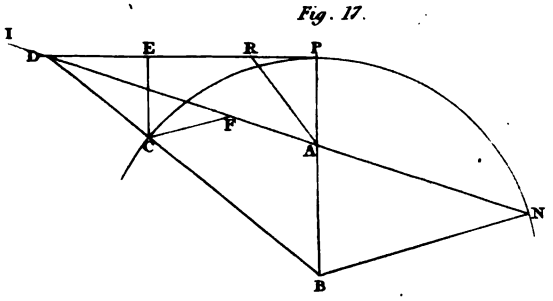


Fig. 15.

PROJECTILES.

Fig. 17.



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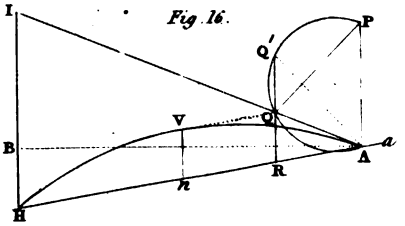

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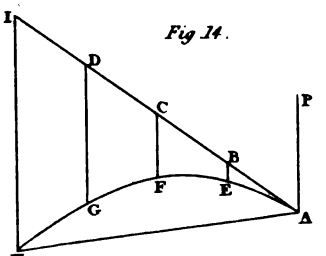

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Lowry Sc.

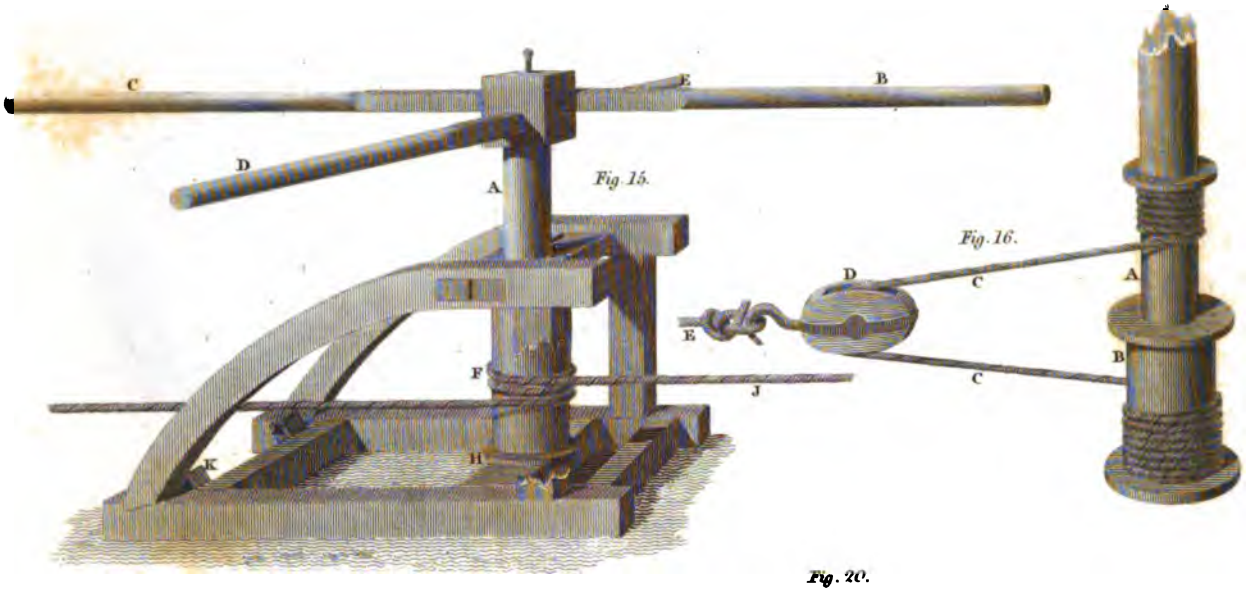


Fig. 15.

Fig. 16.

Fig. 17.

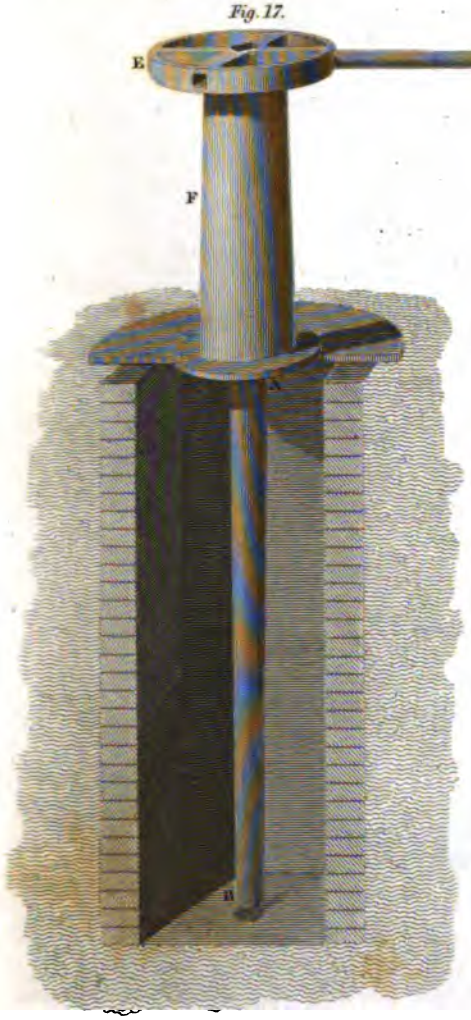


Fig. 20.

Fig. 18.

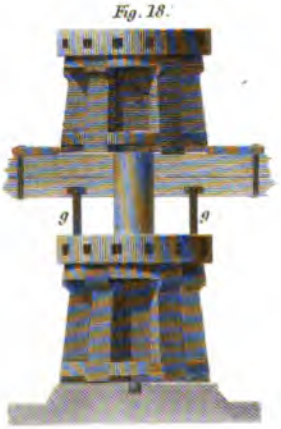


Fig. 19.

Fig. 21.

J. Farey Junr. delin. Published as the Act directs, 1809, by Longman, Hurst, Rees & Orme, Paternoster Row. Engraved by Wilson Lowry.

MECHANICS.

CENTER OF FRICTION, CENTER OF GRAVITY &c.

Fig. 21.

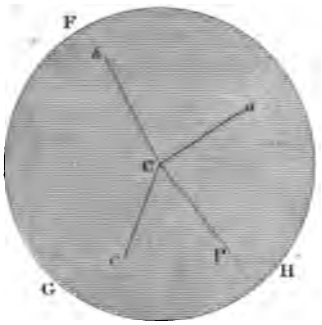


Fig. 22.

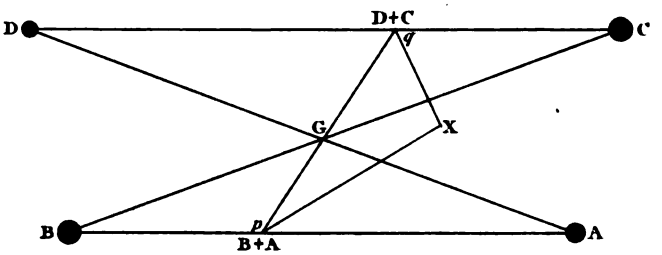
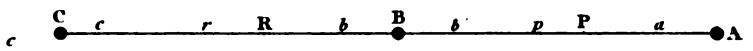


Fig. 23.



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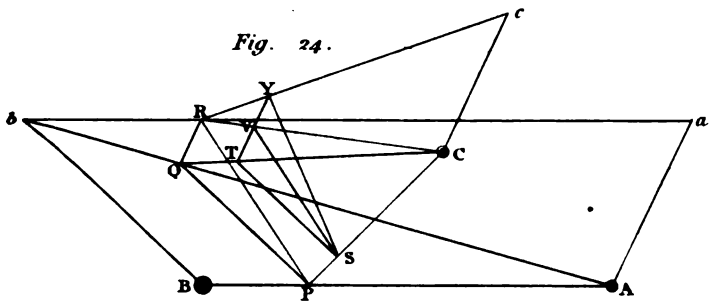

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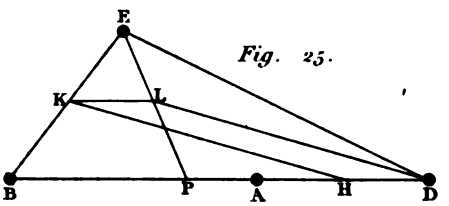

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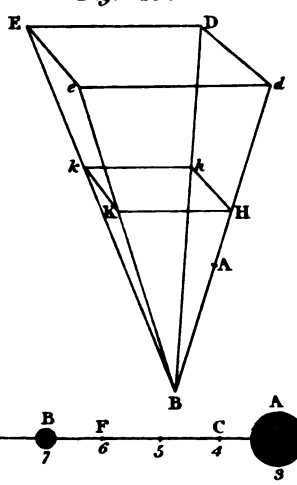

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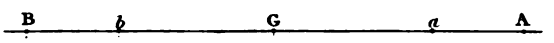

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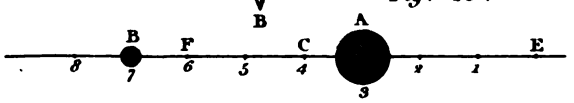
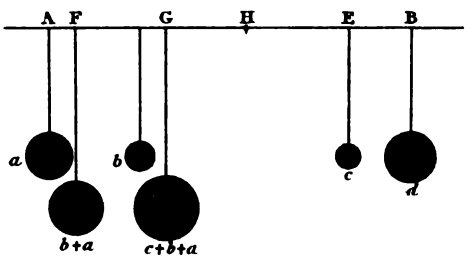


Fig. 29.



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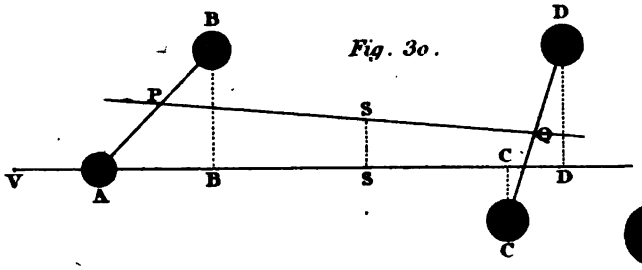
MECHANICS.

CENTER OF GRAVITY.

Fig. 30.



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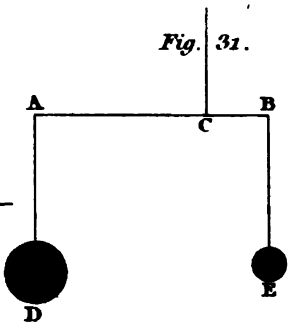


Fig. 32.

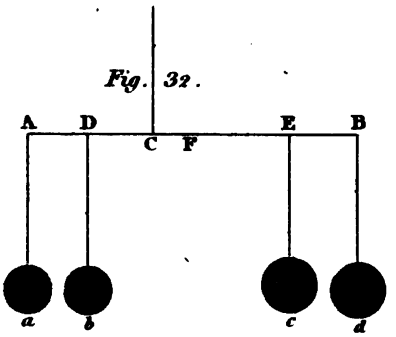


Fig. 33.

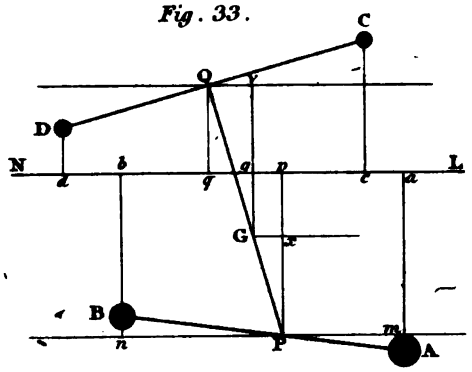
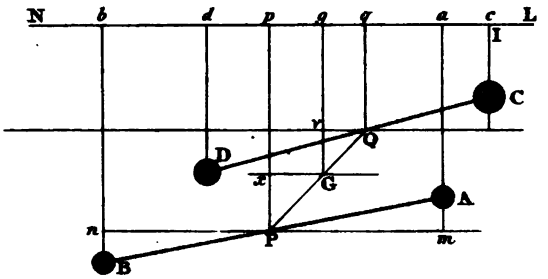


Fig. 34.



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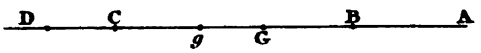

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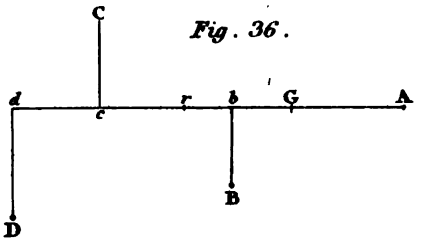
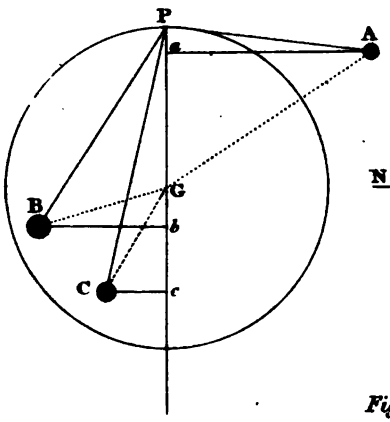


Fig. 37.



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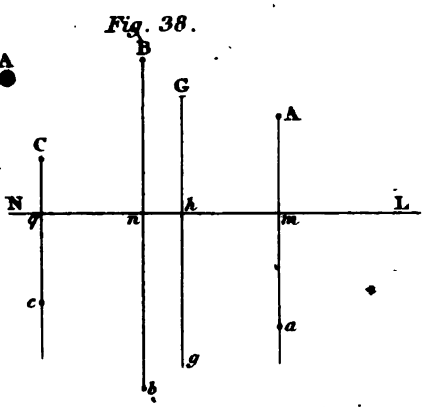
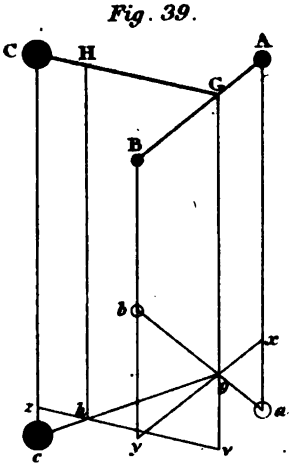


Fig. 39.



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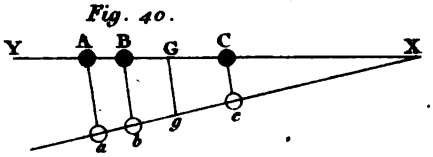

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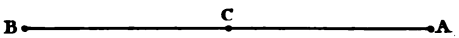
CENTER OF GRAVITY.

Fig. 41.



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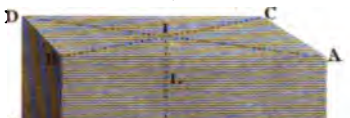


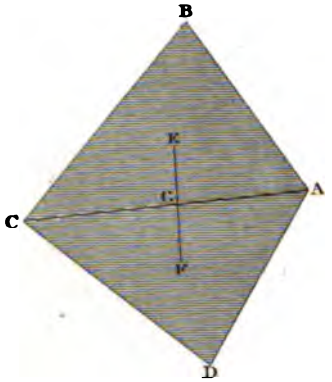
Fig. 43.

Fig. 44.

Fig. 45.

Fig. 46.

Fig. 47.



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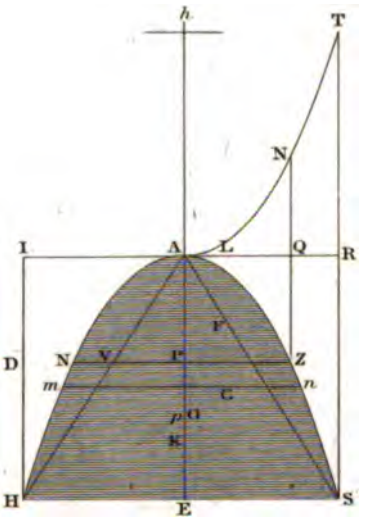
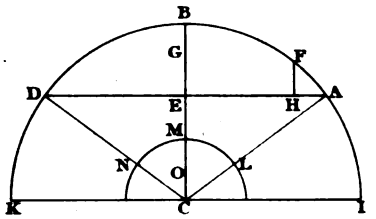


Fig. 49.



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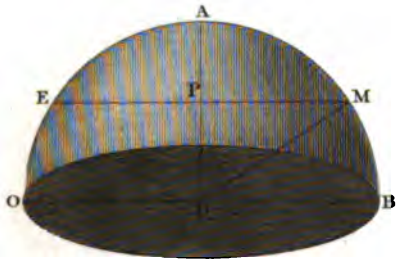
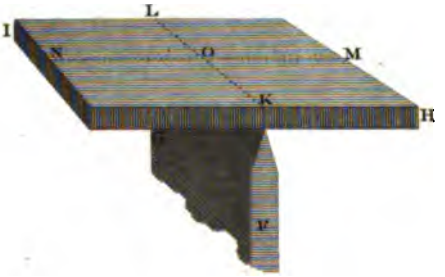


Fig. 51.



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MECHANICS.

CENTER OF GYRATION, OSCILLATION &c.

Fig. 52.

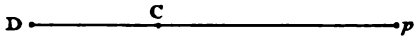


Fig. 53.

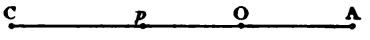


Fig. 54.

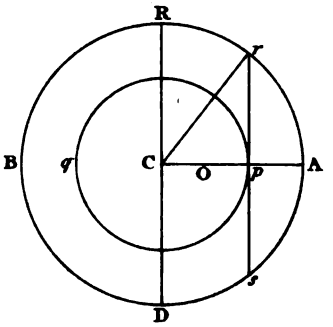


Fig. 55.

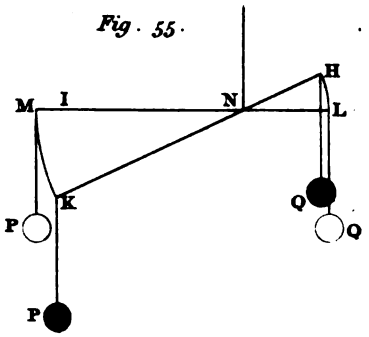


Fig. 56.

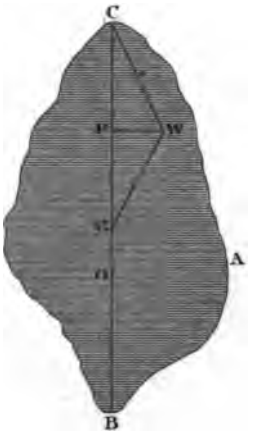


Fig. 57.

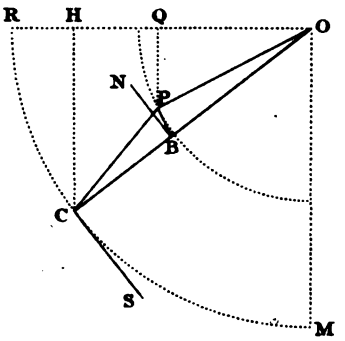


Fig. 58.

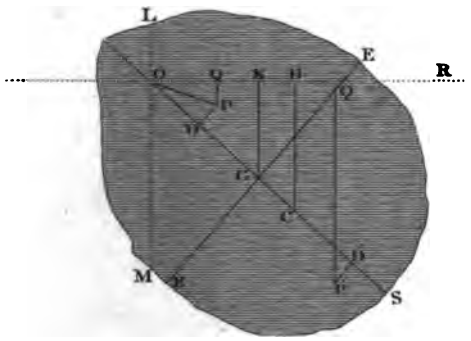


Fig. 59.

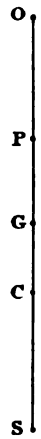
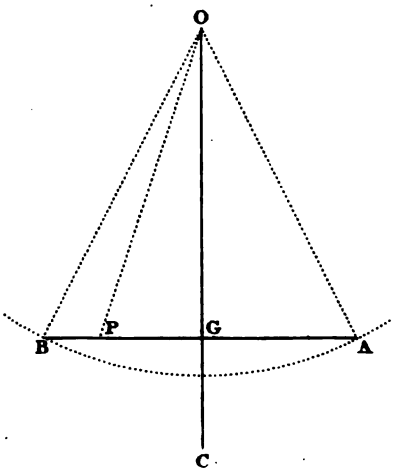


Fig. 60.



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MECHANICS.

CENTER OF OSCILLATION AND CENTER OF PERCUSSION.

Fig. 61.

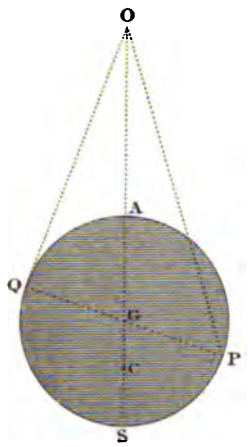


Fig. 62.

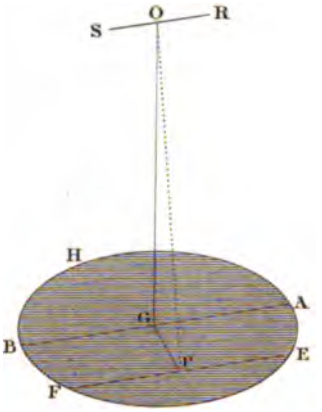


Fig. 63.

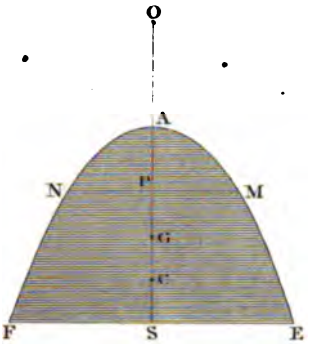


Fig. 64.

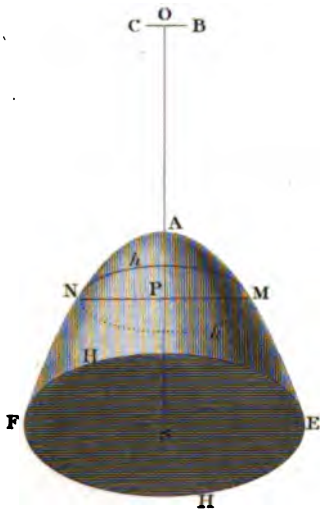


Fig. 65.

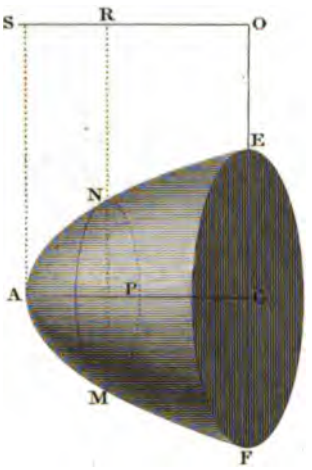


Fig. 66.

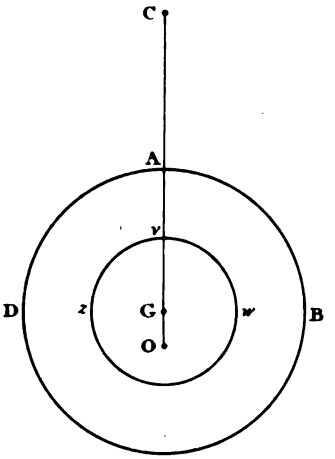


Fig. 67.

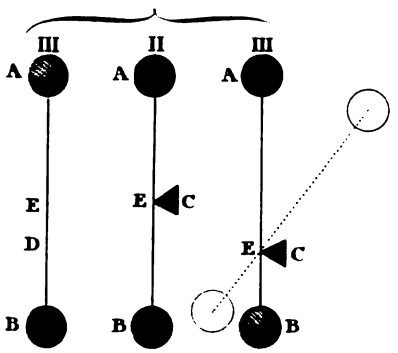


Fig. 68.

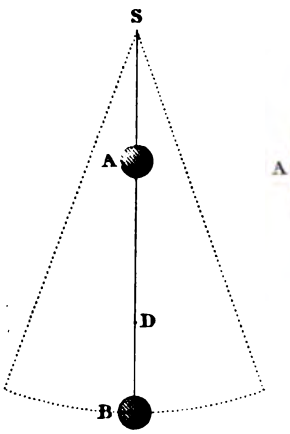
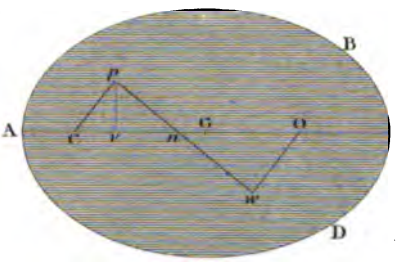


Fig. 69.



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MECHANICS.

CENTER OF POSITION, OF PRESSURE, OF ROTATION &c.

Fig. 70.

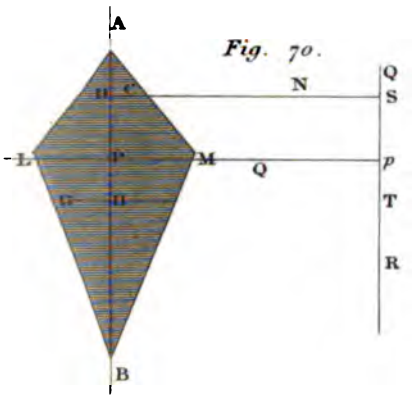


Fig. 71.

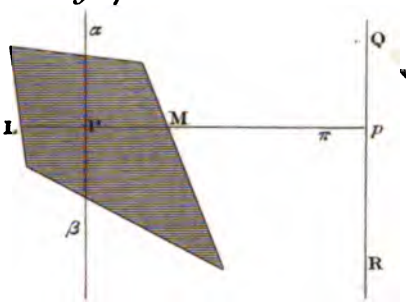


Fig. 72.

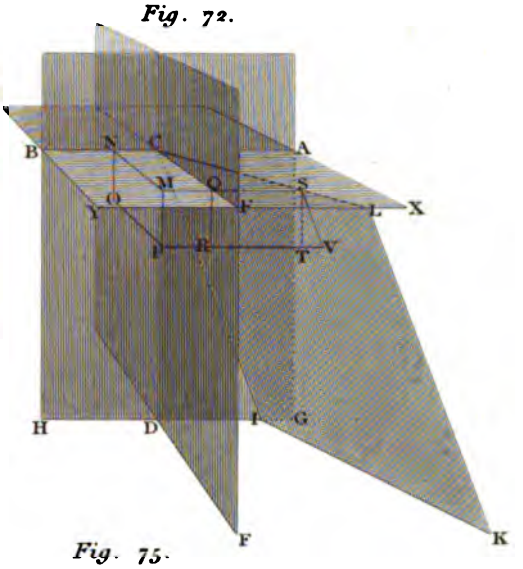


Fig. 73.

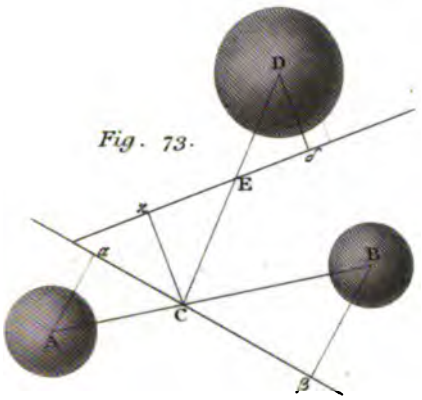


Fig. 74.

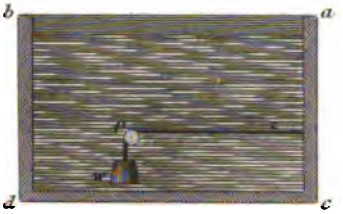


Fig. 75.

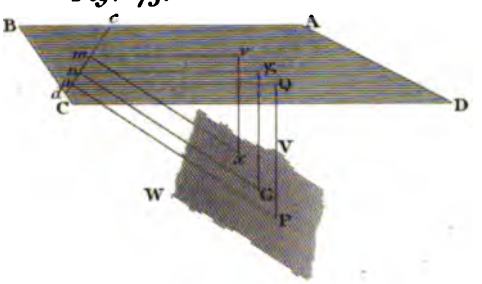


Fig. 76.

Fig. 77.

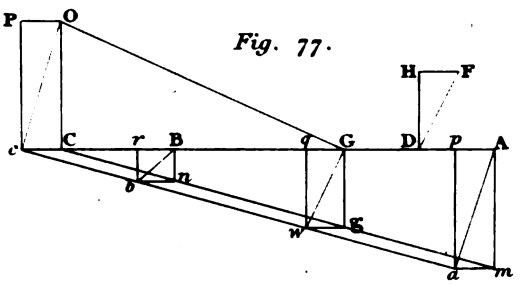
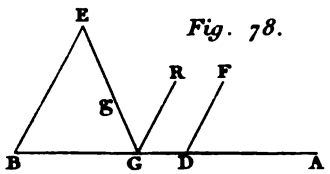


Fig. 78.



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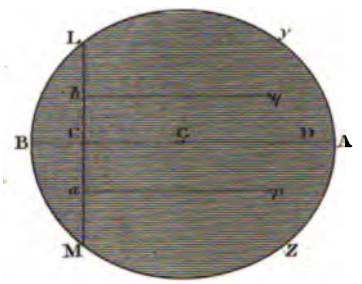

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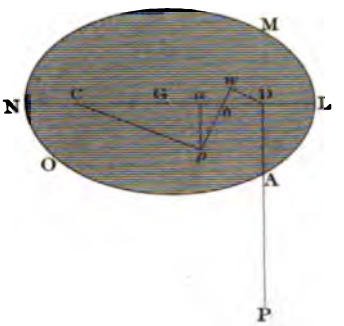

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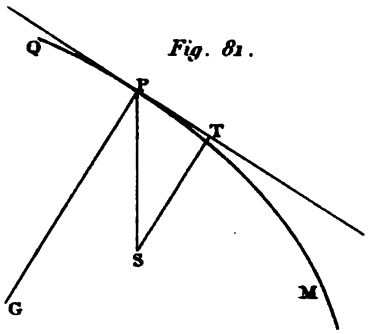
CENTRAL, CENTRIFUGAL, AND CENTRIPETAL FORCES.

Fig. 81.



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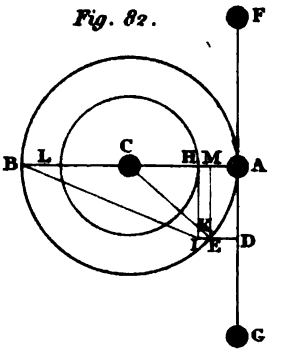

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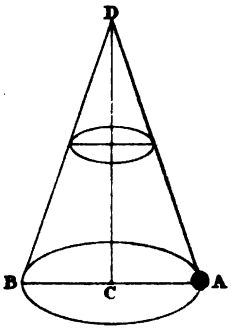


Fig. 84.

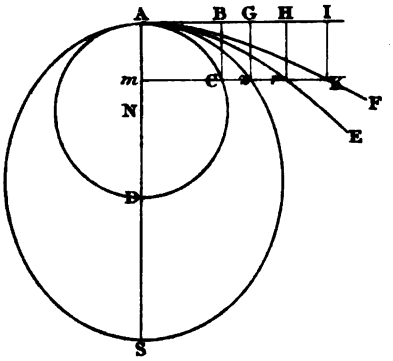
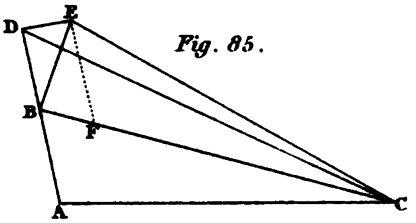


Fig. 85.



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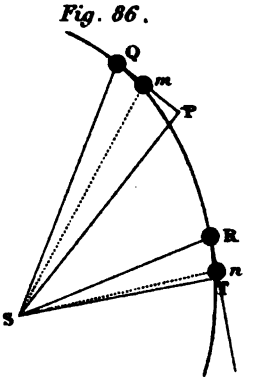

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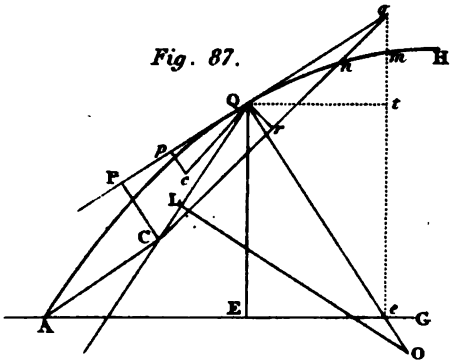

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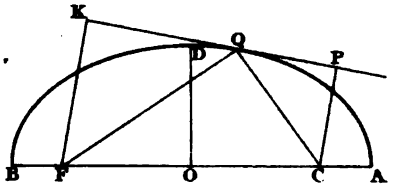
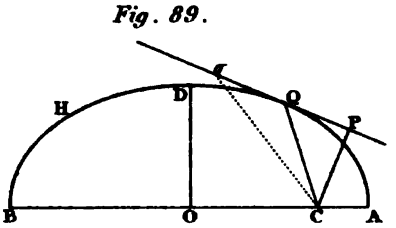


Fig. 89.



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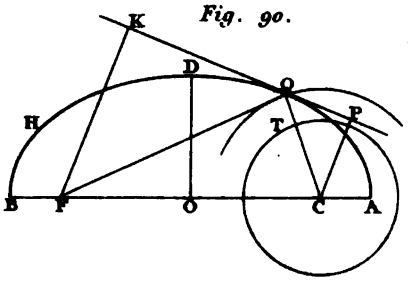


Fig. 91.

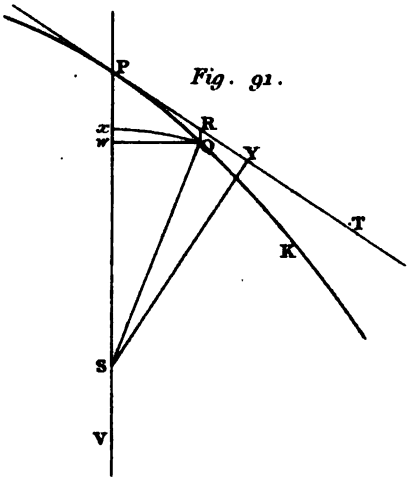
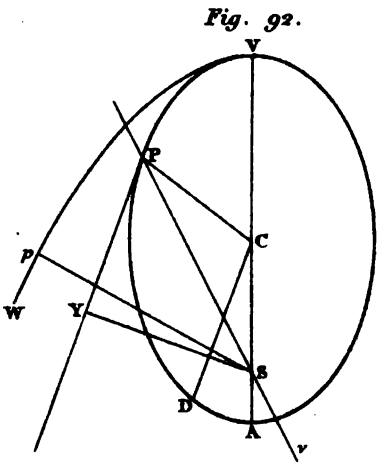


Fig. 92.



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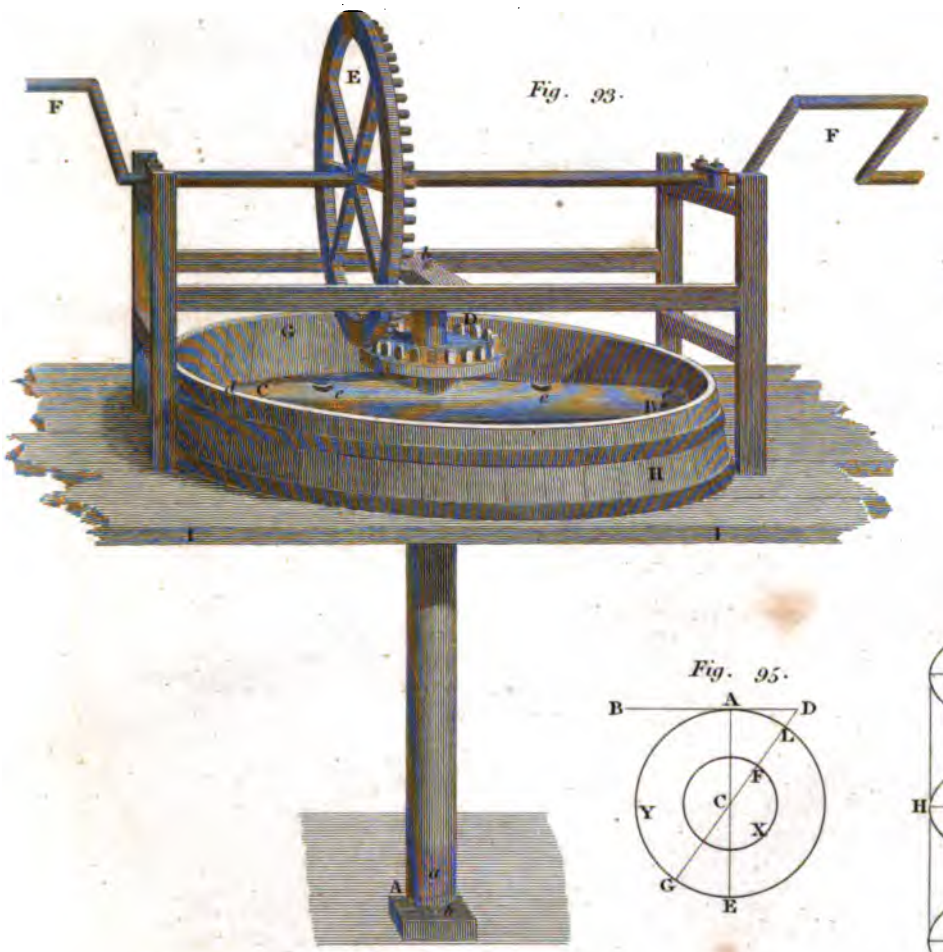
CENTRIFUGAL MACHINE AND CENTROBARYC METHOD.

Fig. 93.



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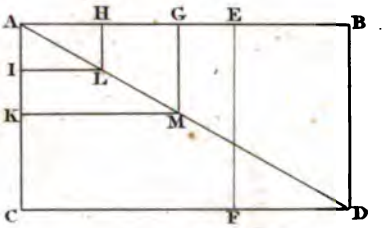


Fig. 95.

Fig. 96.

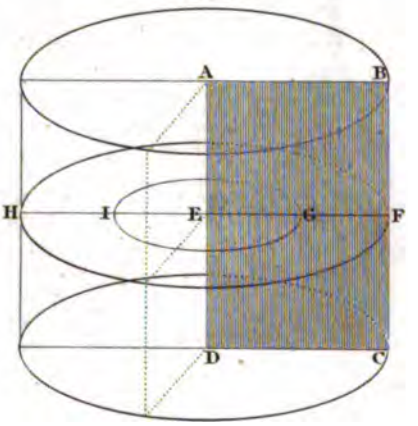


Fig. 97.

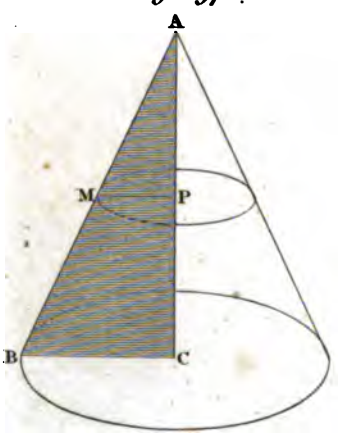
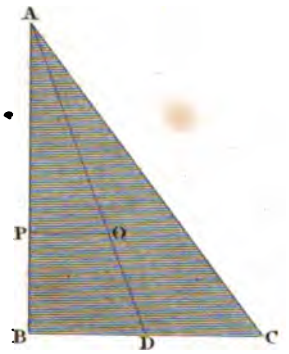


Fig. 98.



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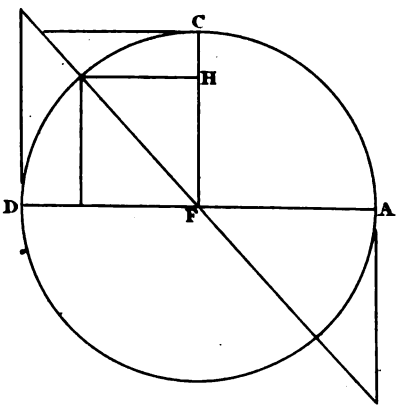

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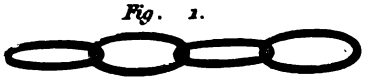
CHAINS.

Fig. 1.



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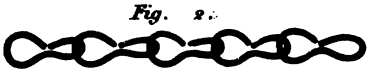


Fig. 3.

Fig 4.

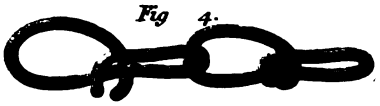
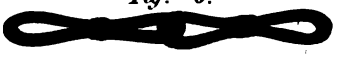


Fig. 5.

Fig. 6.



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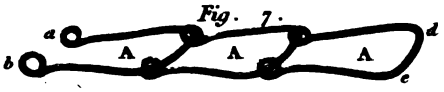


Fig. 8.

Fig. 9.

Fig. 10.

CLAY MILL.

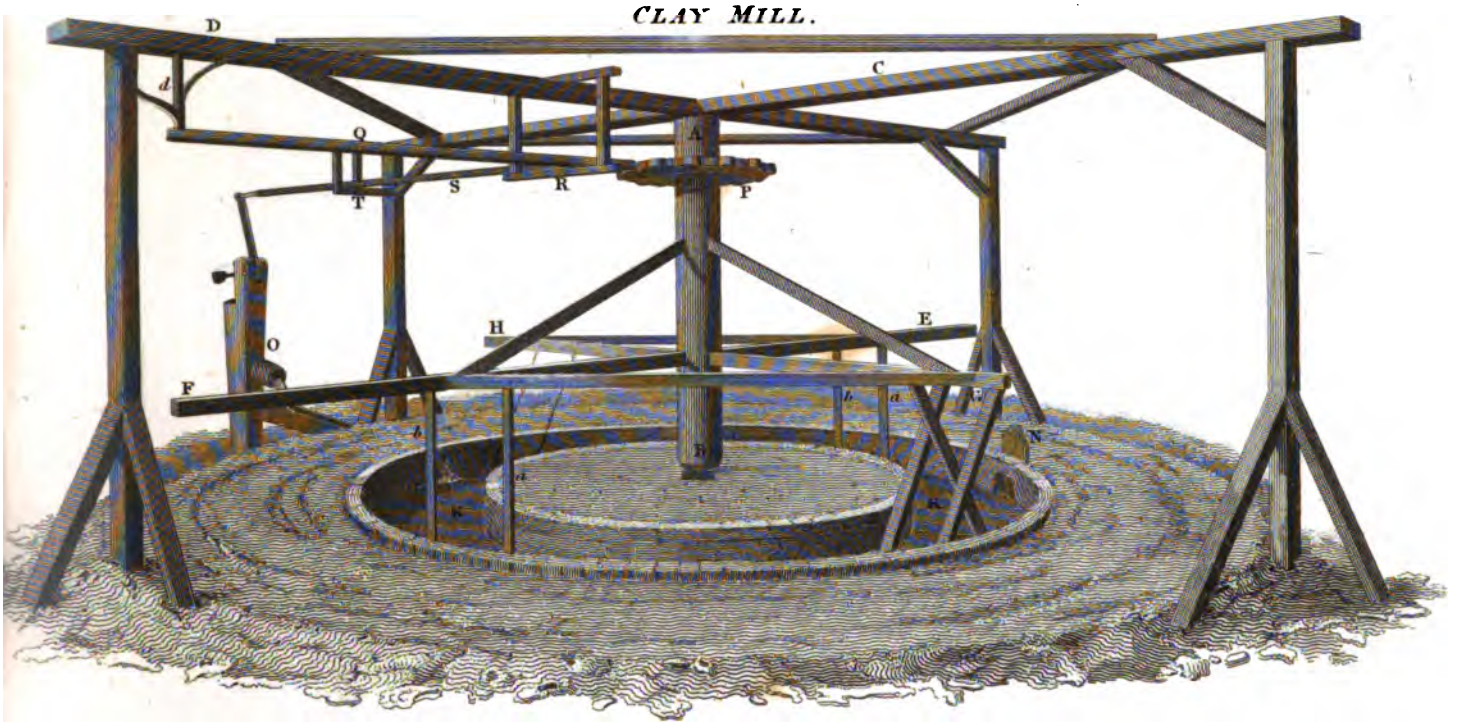
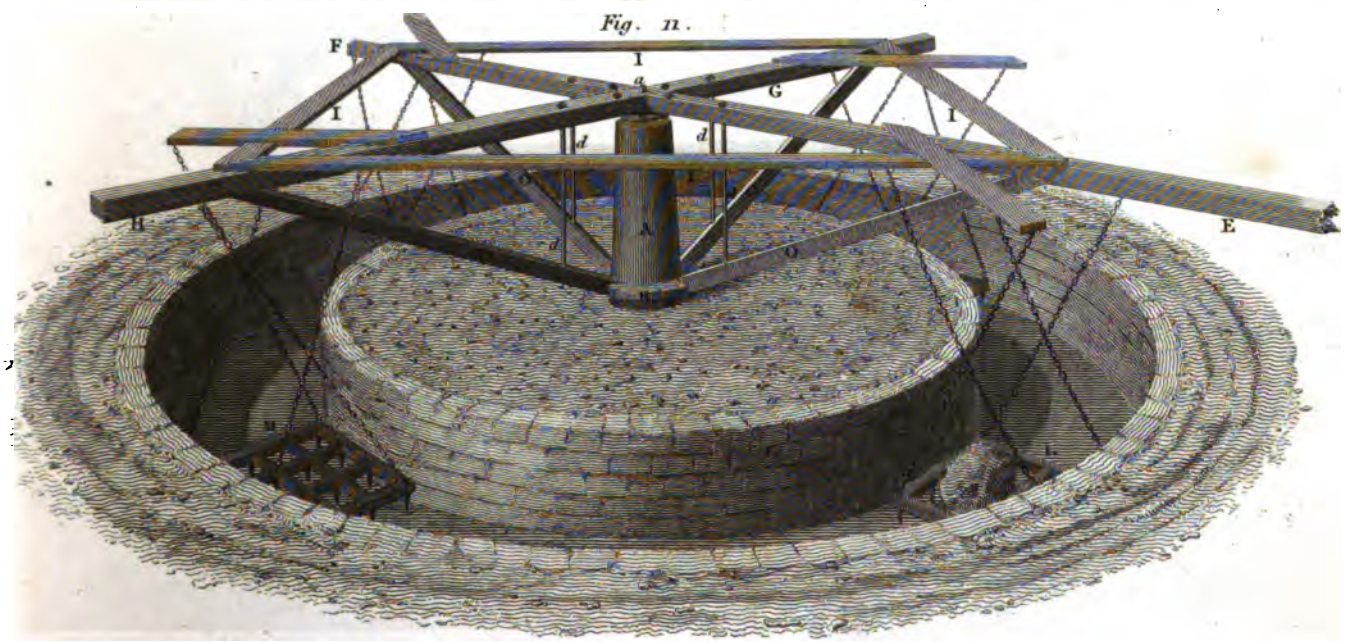


Fig. 11.



Parey Junr. delin.

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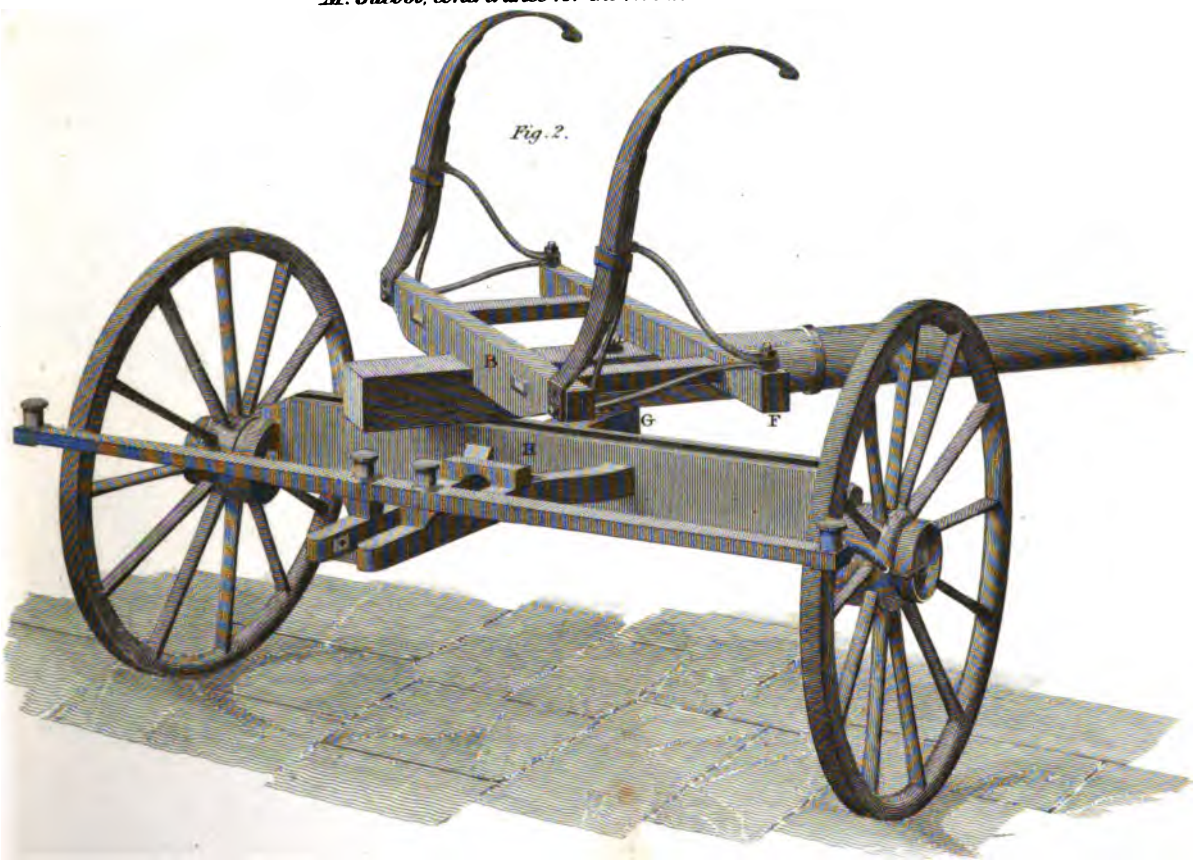
MECHANICS.

COACH.

View of the fore wheels of a Crane necked Carriage.

Mr. Jacobs, contrivance for the fore wheels of a Coach.



J. Farey Junr. delin.

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Lowry Sc.

MECHANICS.

COAL MEASURING.

Fig. 1.

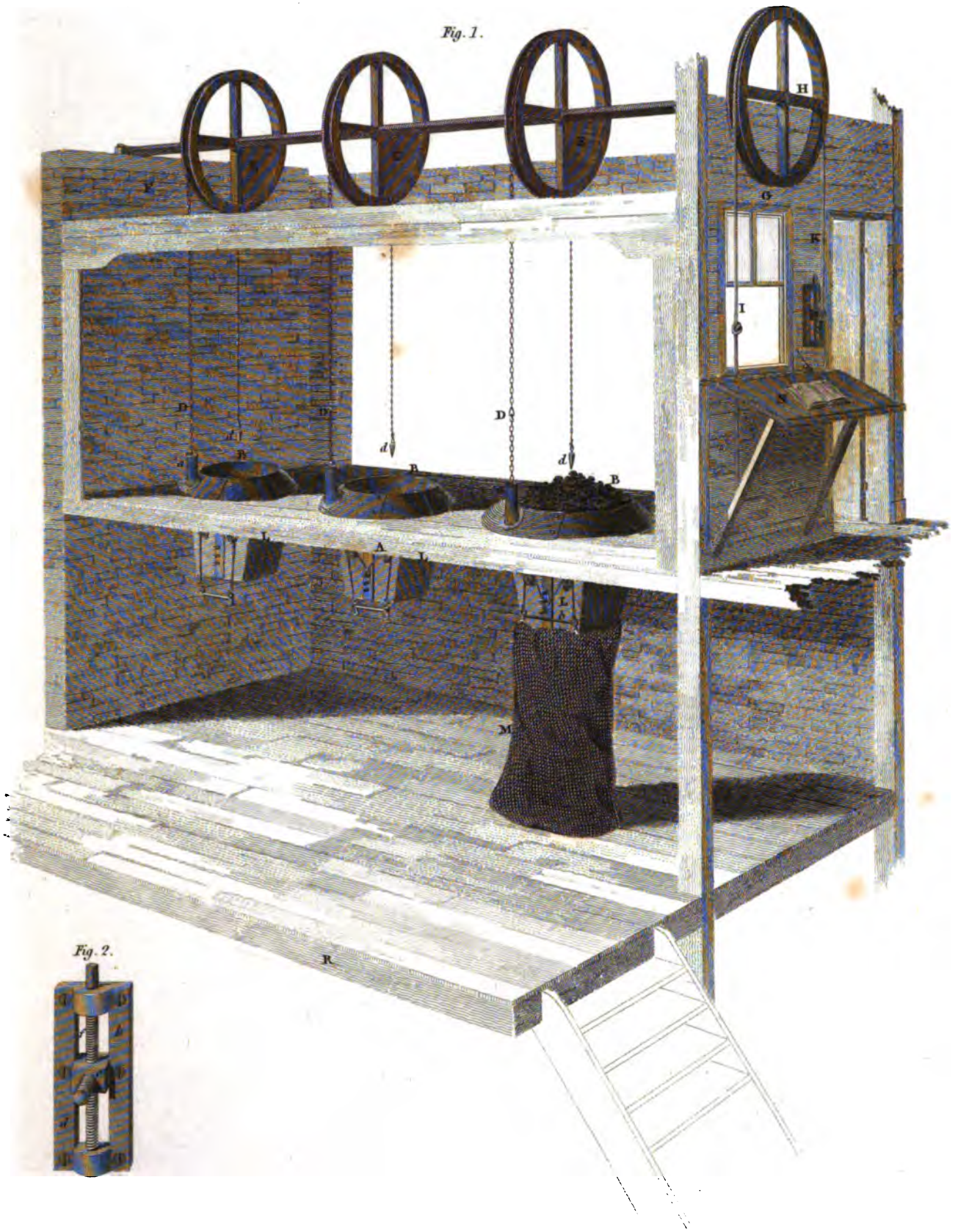

Fig. 2.

J. Farey Jun.r delin.

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WATER COCKS.

Fig. 1.

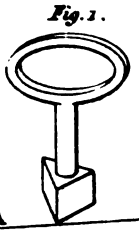


Fig. 2.

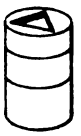


Fig. 3.

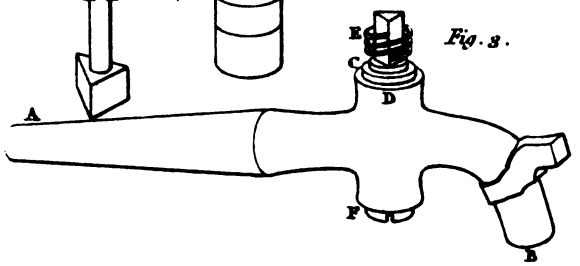


Fig. 4.

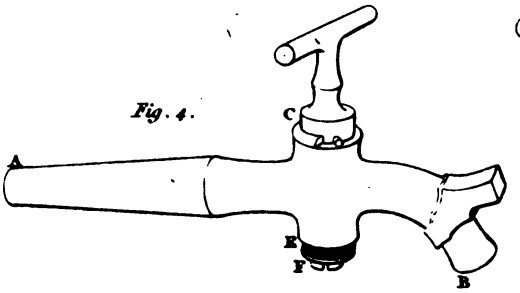


Fig. 5.

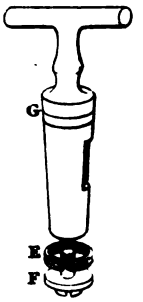


Fig. 6.

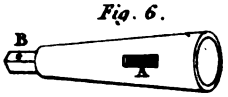
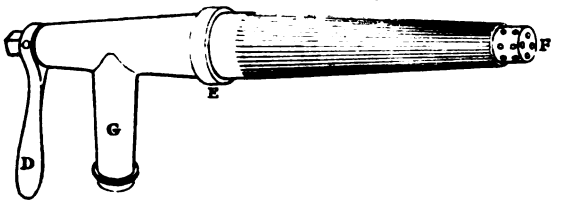


Fig. 7.



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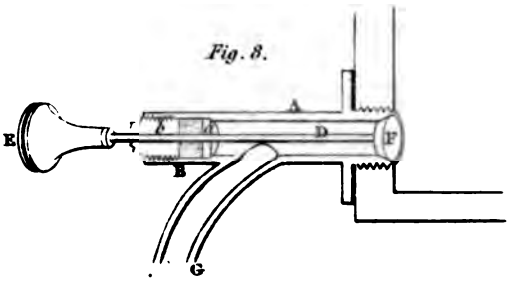


Fig. 9.

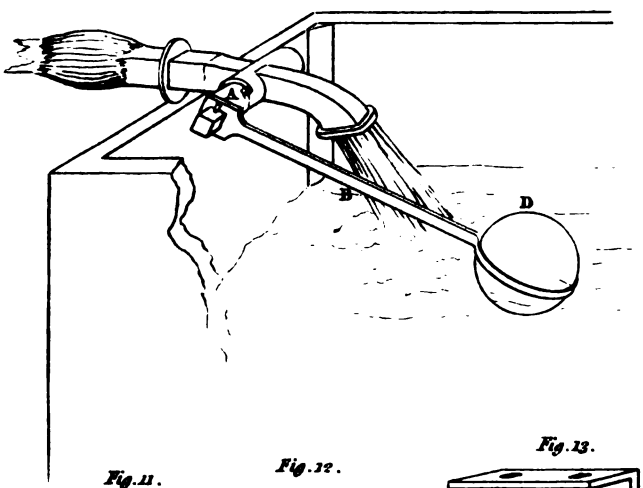
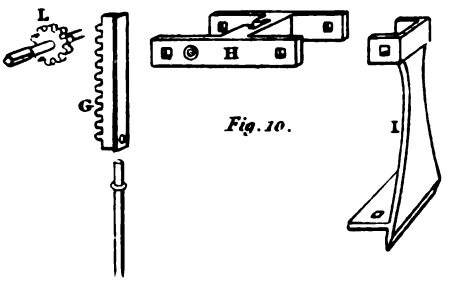


Fig. 10.



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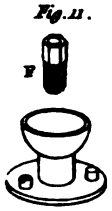

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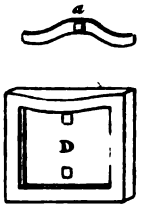

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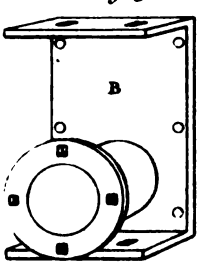


Fig. 14.

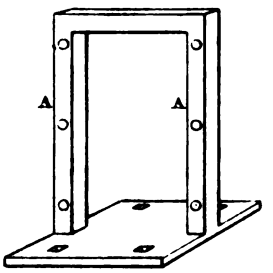
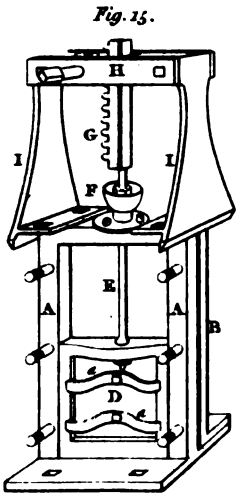


Fig. 15.



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COLLISION.

Fig. 1.

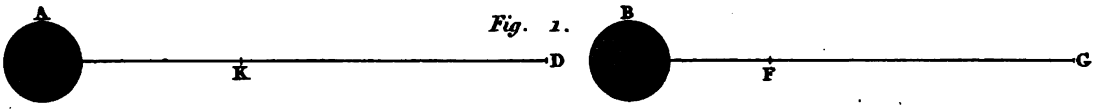


Fig. 2.

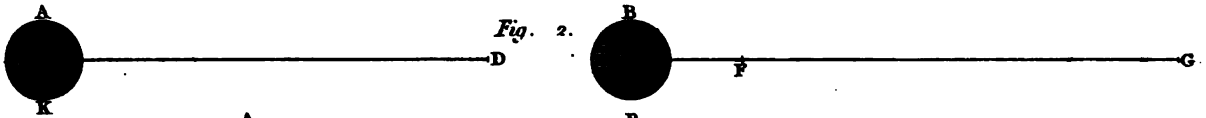


Fig. 3.

Fig. 4.

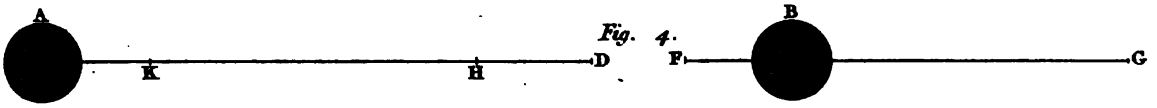


Fig. 5.

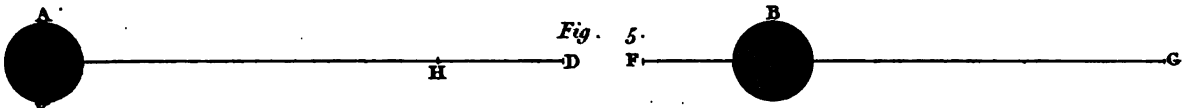
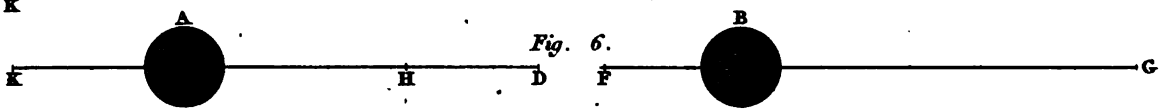


Fig. 6.



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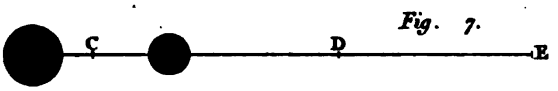

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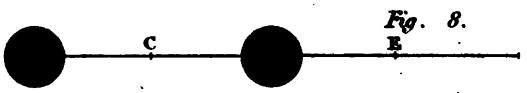
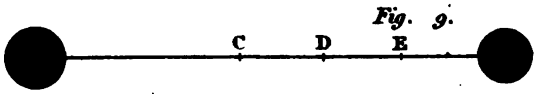


Fig. 9.



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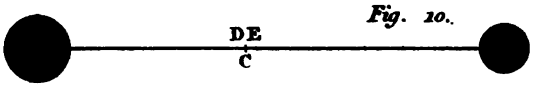

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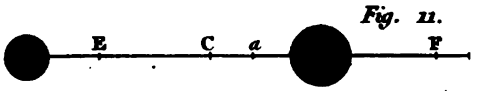

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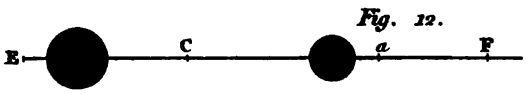

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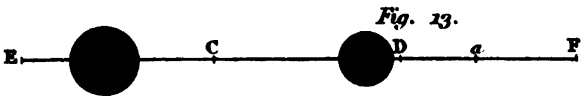

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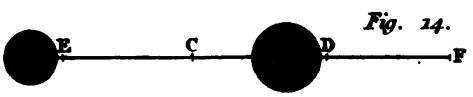
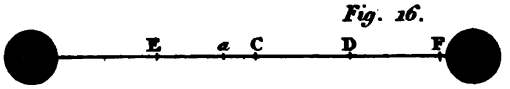


Fig. 15.

Fig. 16.



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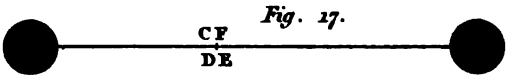

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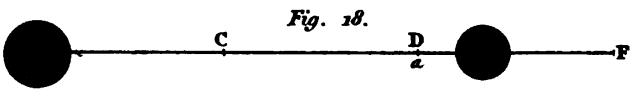

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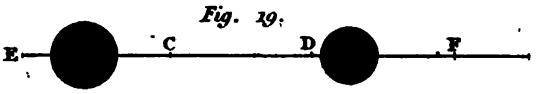

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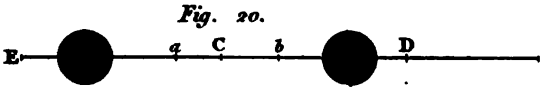

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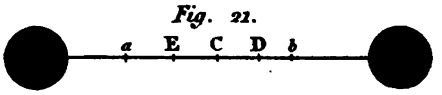

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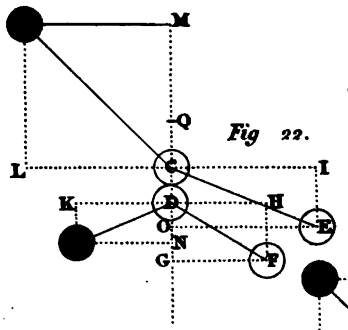

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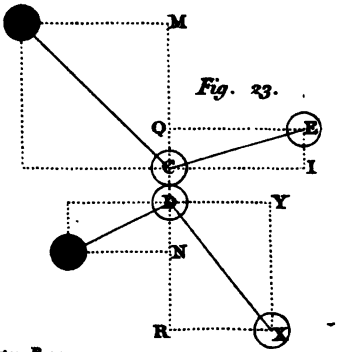

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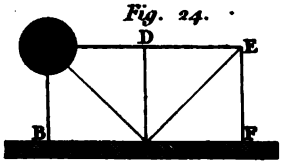

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COMB MAKING.

Fig. 1.

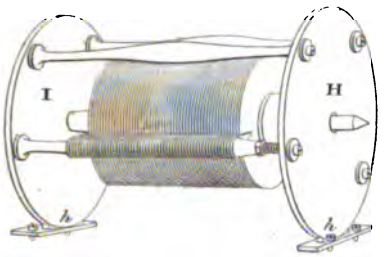


Fig. 2.

Fig. 3.

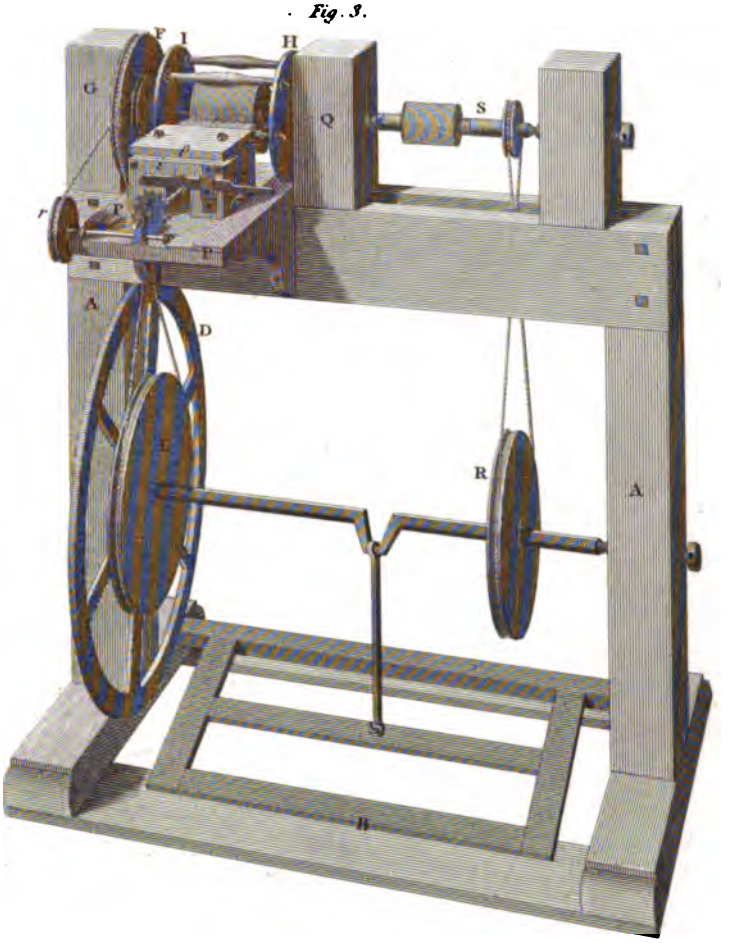
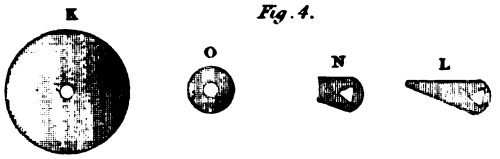


Fig. 4.



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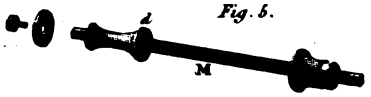


Fig. 6.

Fig. 7.

Coupling box.

Fig. 6.*

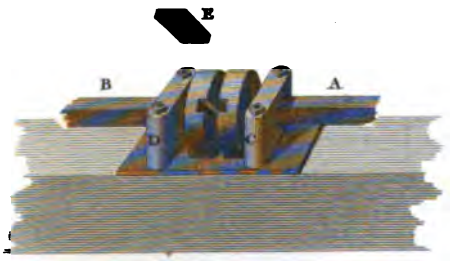


Fig. 7.*

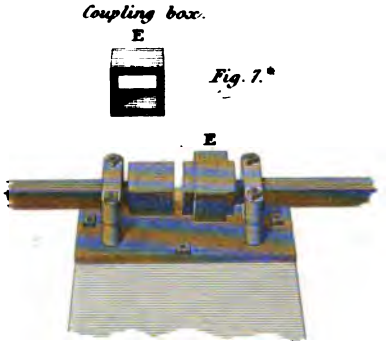
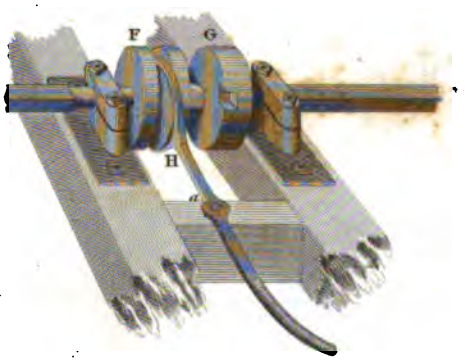


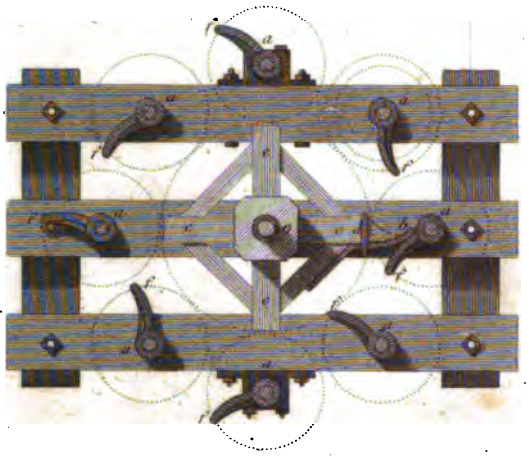
Fig. 8.



J. Farey Junr. delin. Published as the Act directs, 1815, by Longman, Hurst, Rees, Orme & Brown, Paternoster Row. Lowry sculp.

Proney's Condenser of Forces.

Fig. 10.



Composition of Motion.

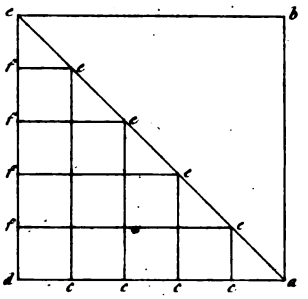


Fig. 1.

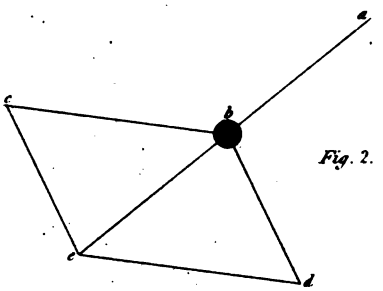
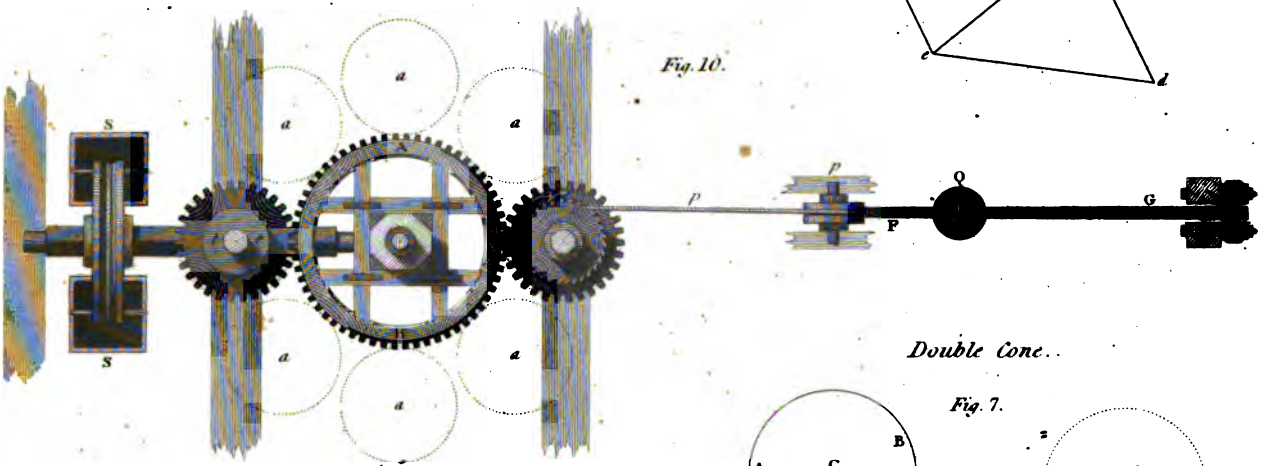


Fig. 2.

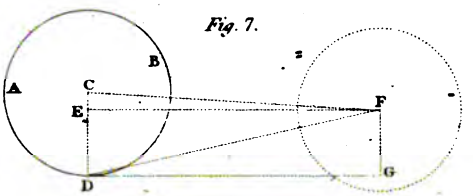
Plans.

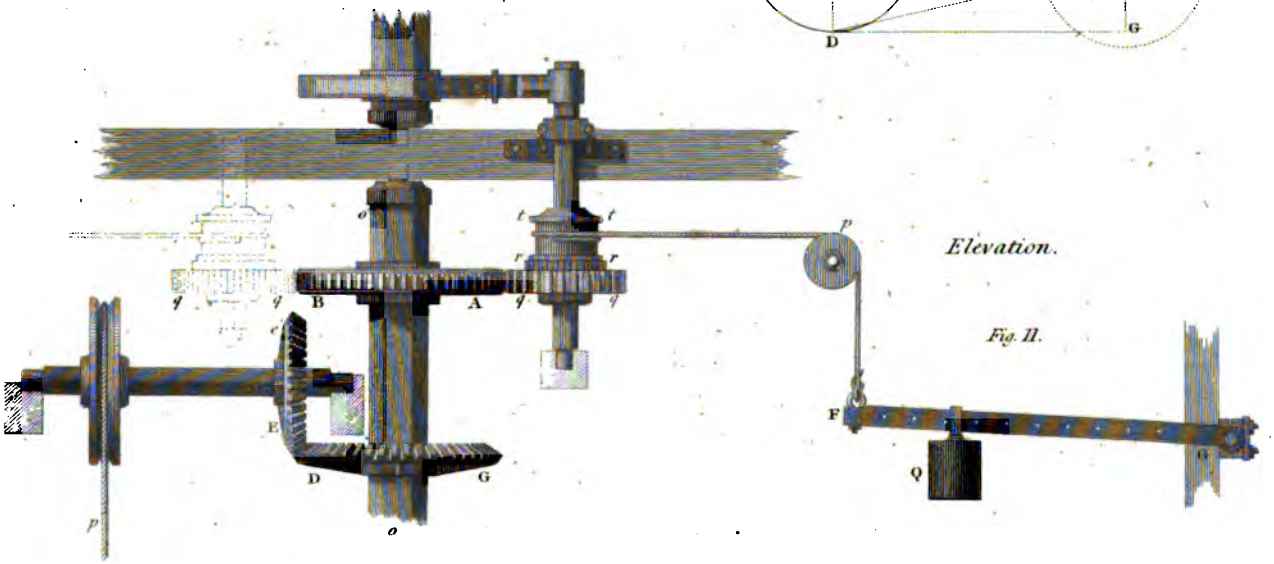
Fig. 10.



Double Cone.

Fig. 7.





Elevation.

Fig. 11.

. . . . del.

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MECHANICS.

Fig. 3.

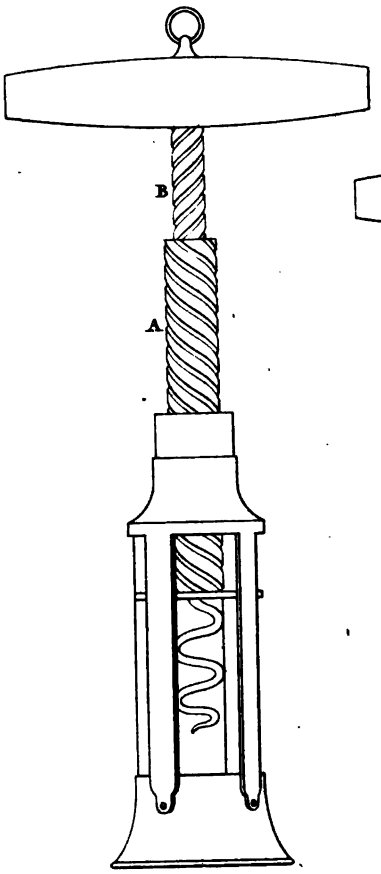


Fig. 1.

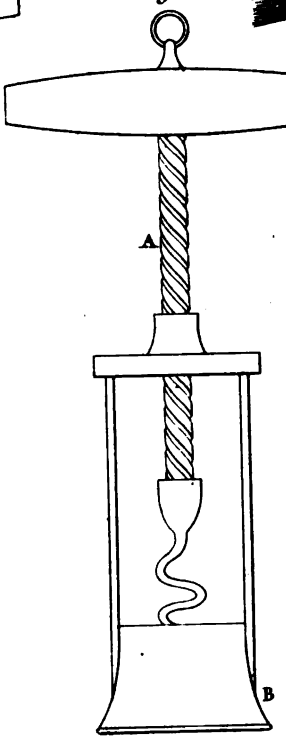
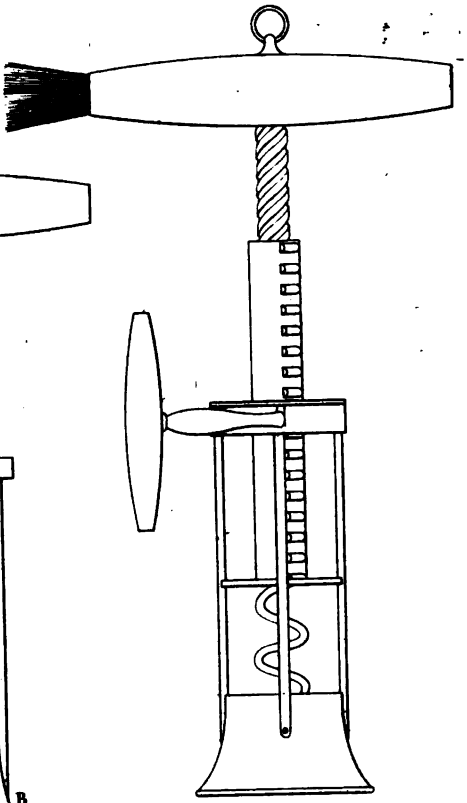


Fig. 4.



Corking Machine.

Fig. 2.

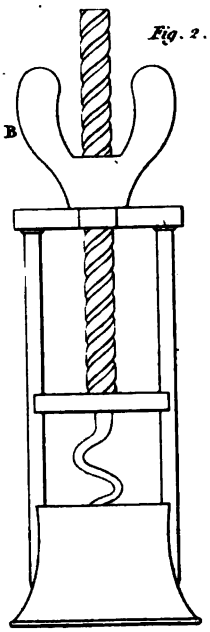
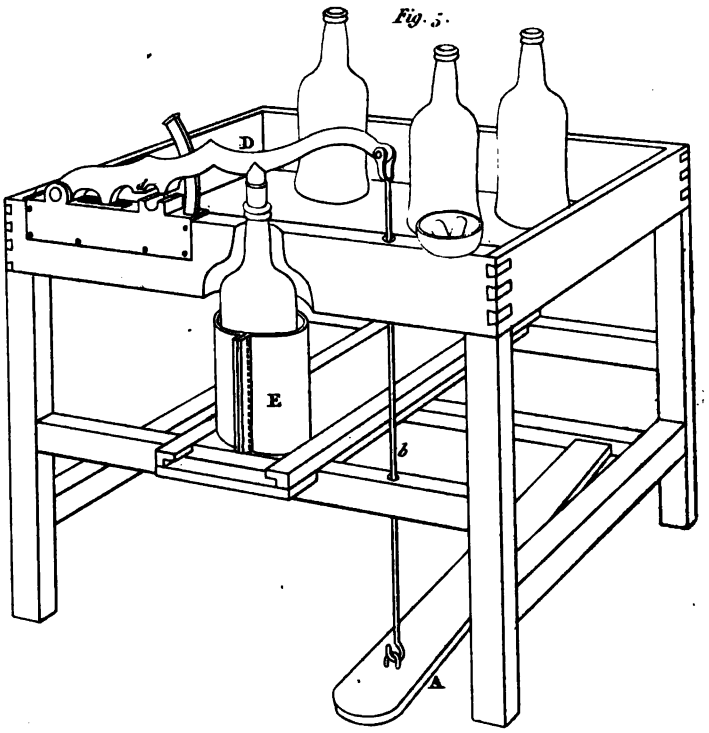


Fig. 5.



J. Farey, Junr. delin.

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MECHANICS.

CRANES.

by Mr. Ferguson.

Fig. 2.

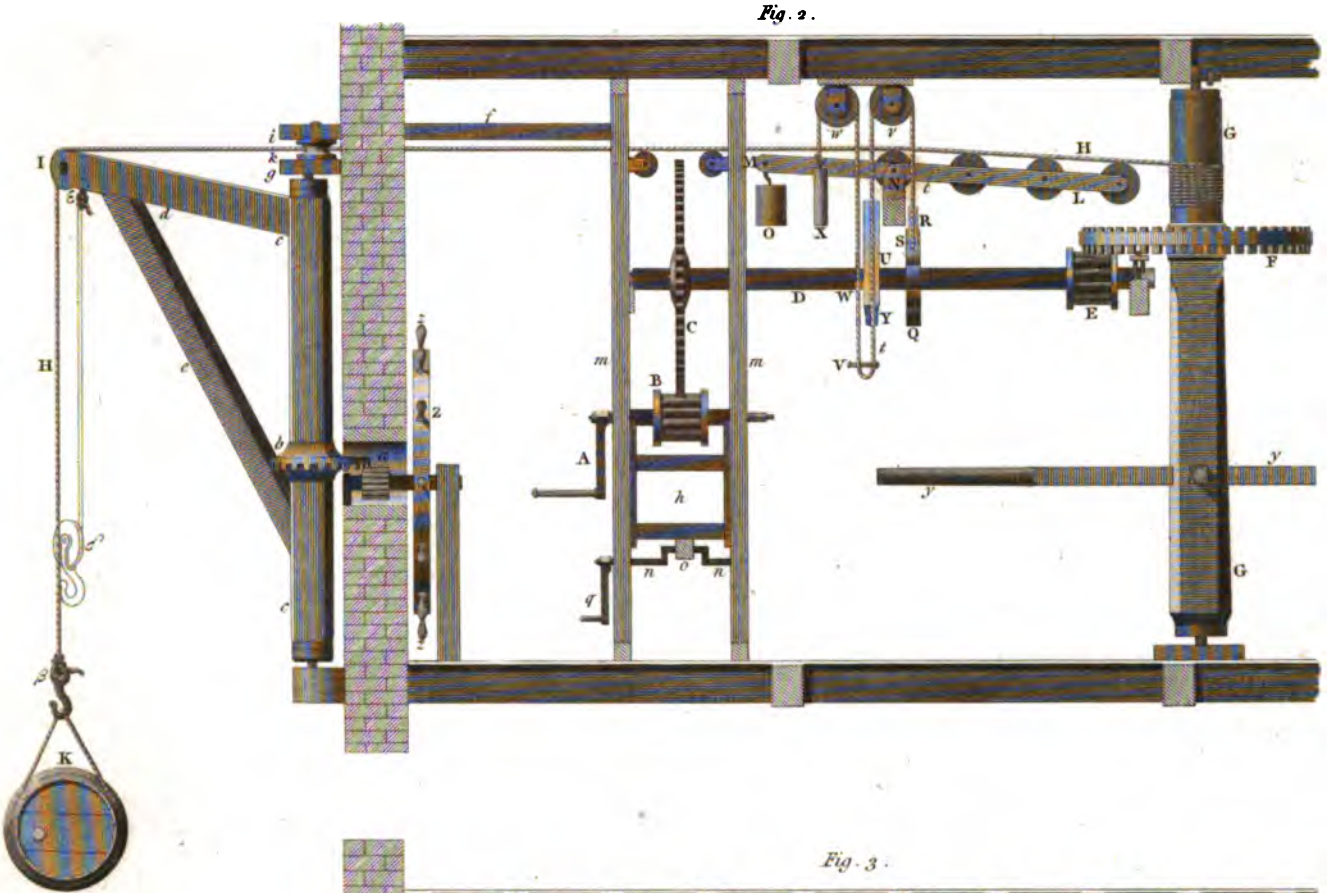
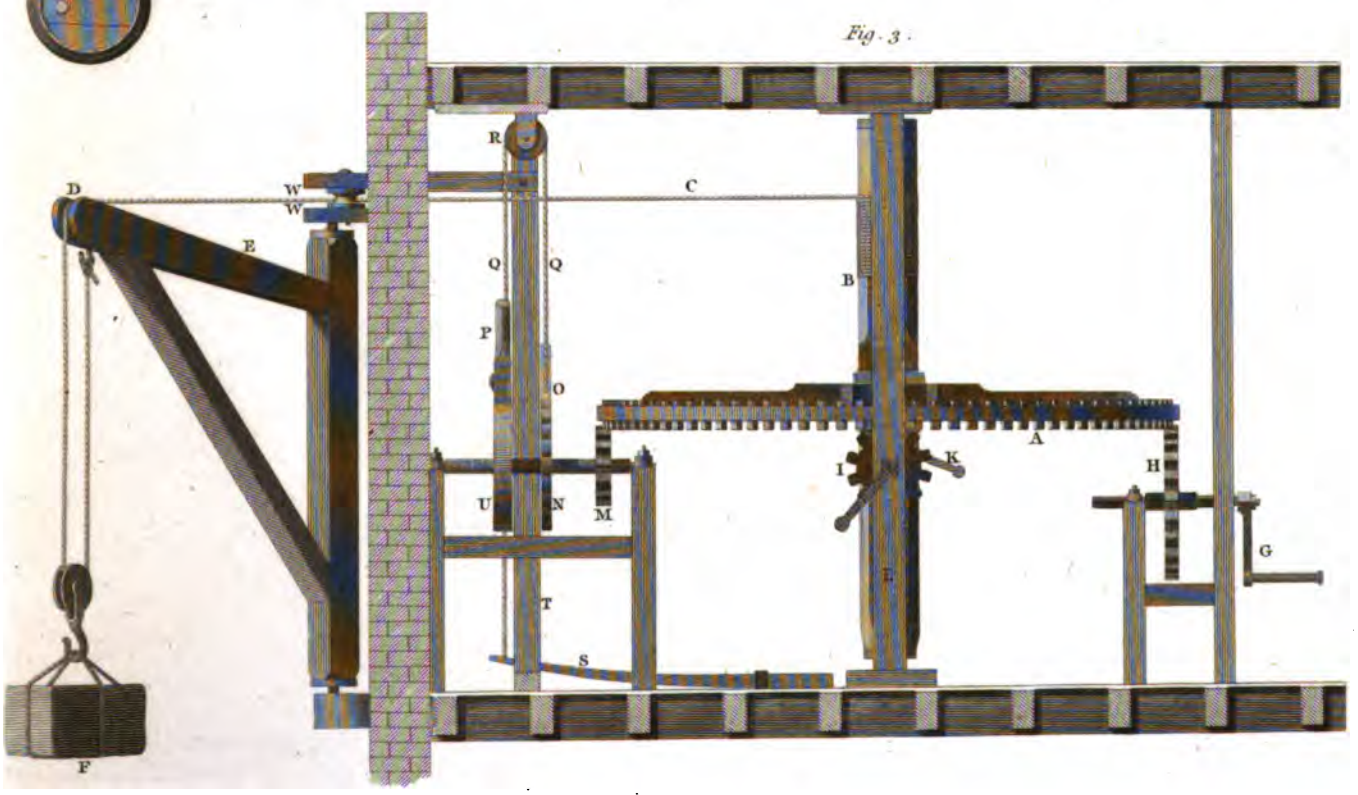


Fig. 3.



J. Farey Junr. delin.

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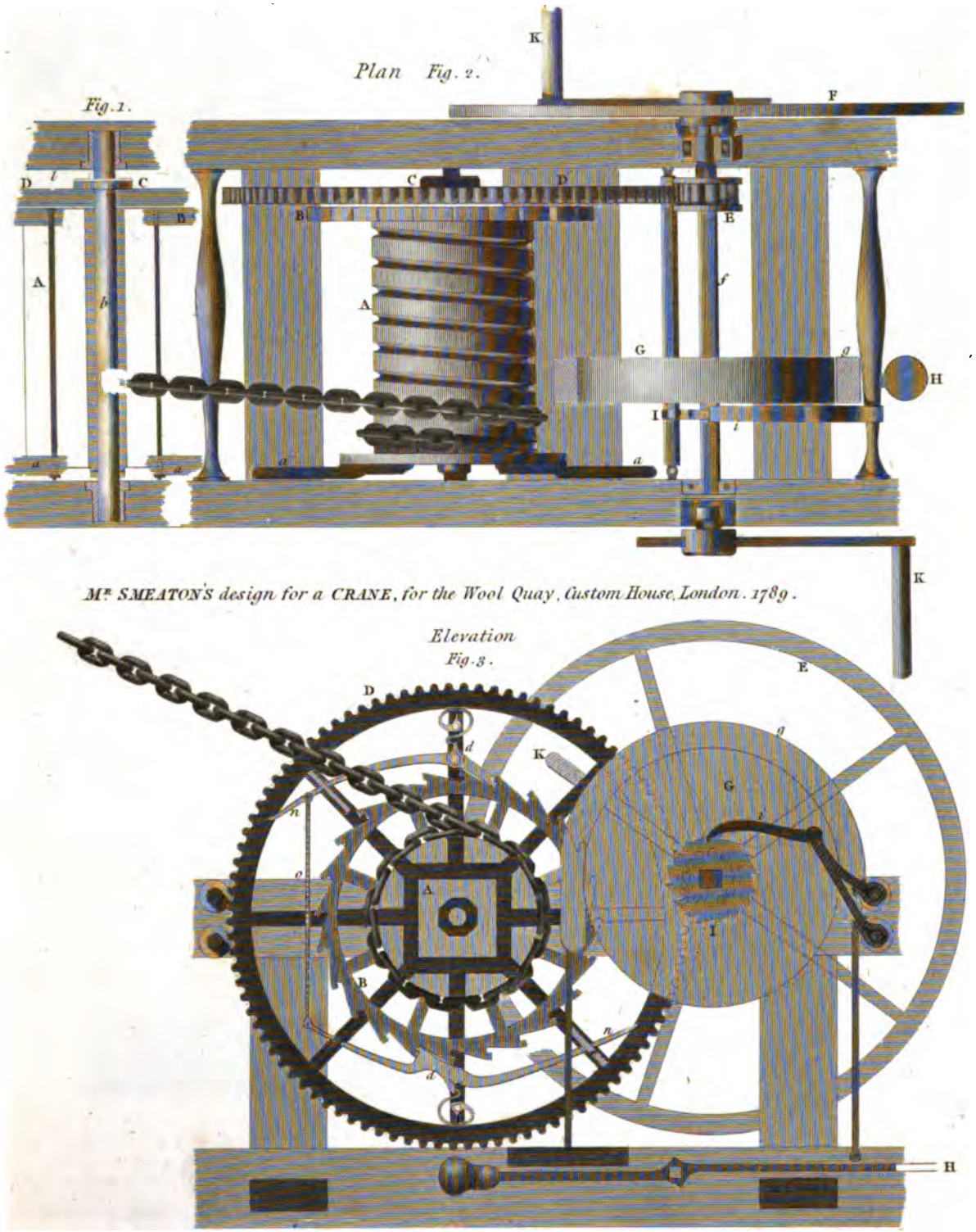
CRANES.



Mr. SMEATON'S design for a CRANE, for the Wool Quay, Custom House, London. 1789.

Scale of Inches.

10 20 30 40 50 60 70 80 90

Reduced by permission from the Original Drawing in the possession of Sir Joseph Banks K.B. by J. Farey Junior.

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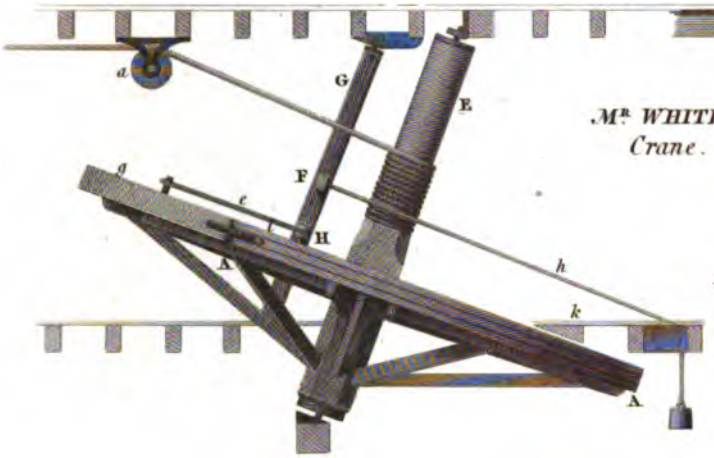
MECHANICS.

CRANES.

Fig. 1.



Mr. WHITE'S
Crane.

Fig. 2.

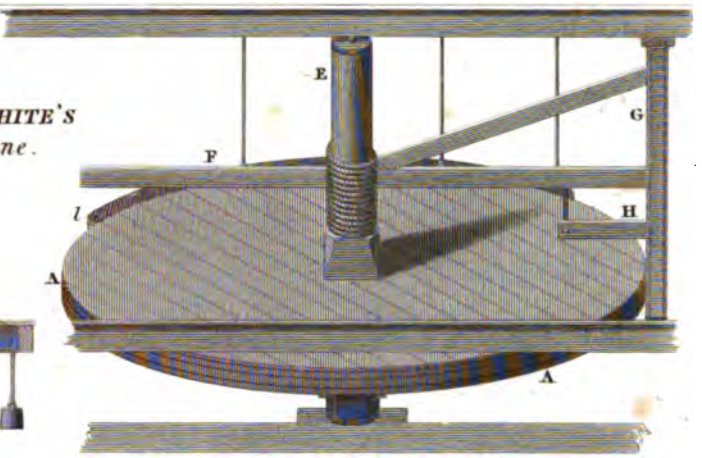
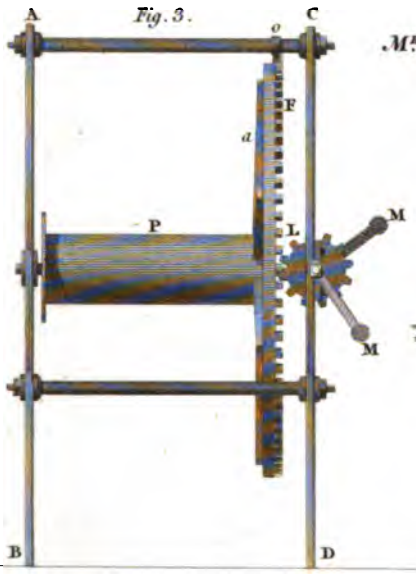
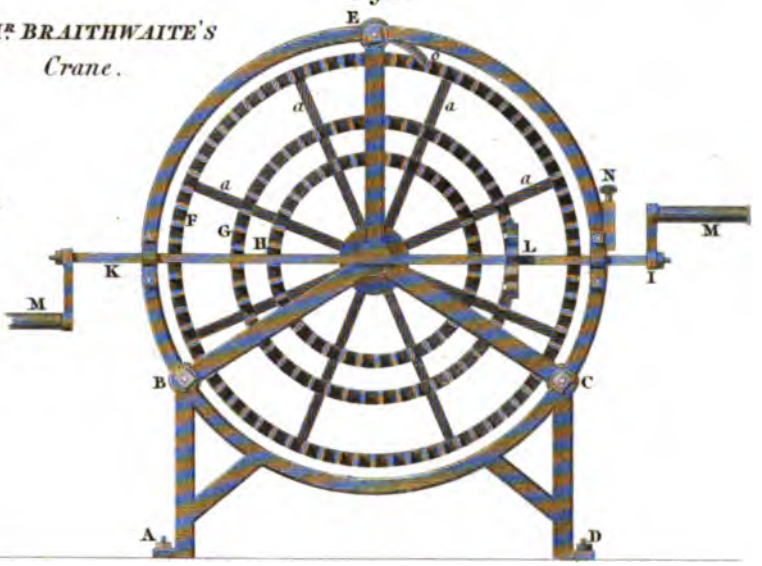


Fig. 3.



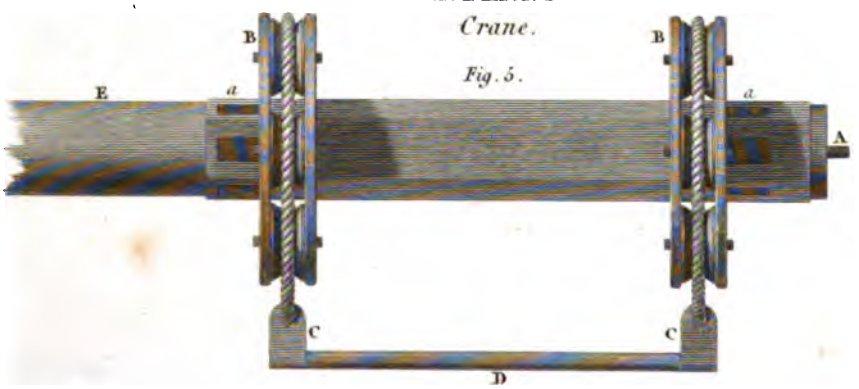
Mr. BRAITHWAITE'S
Crane.

Fig. 4.



Mr. DIXON'S
Crane.

Fig. 5.



J. Farey Junr. delin.

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CRANES.

Fig. 1.

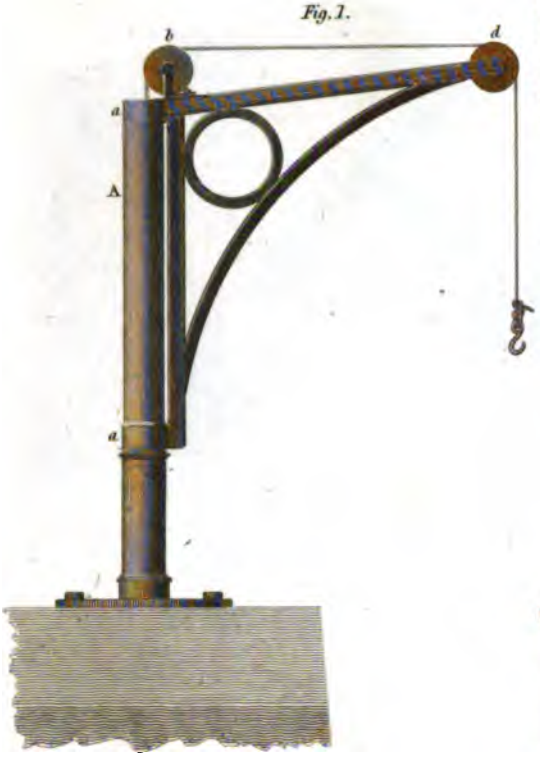


Fig. 2.

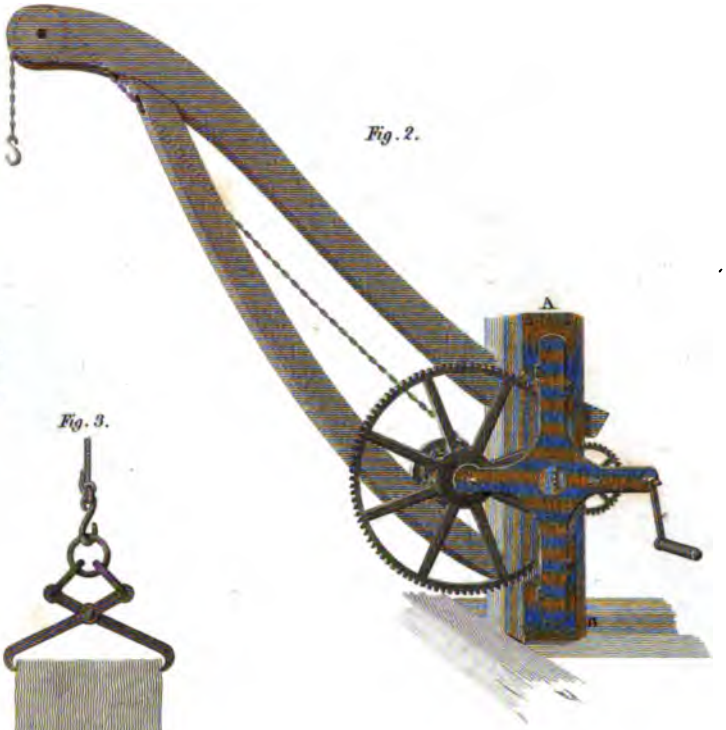


Fig. 3.

Fig. 4.

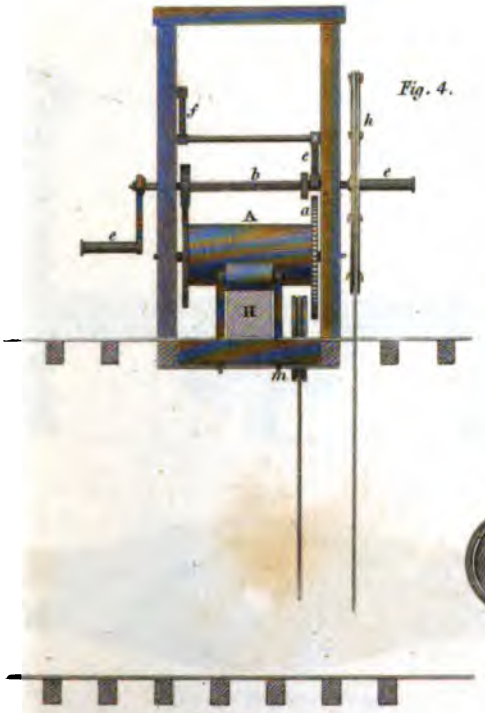
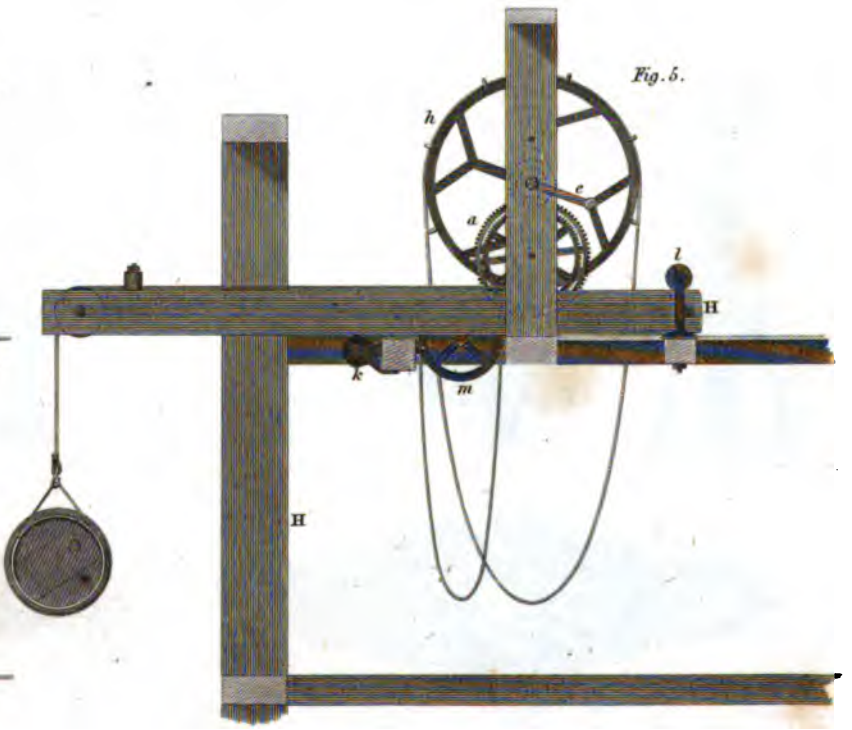


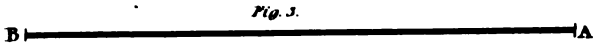
Fig. 5.

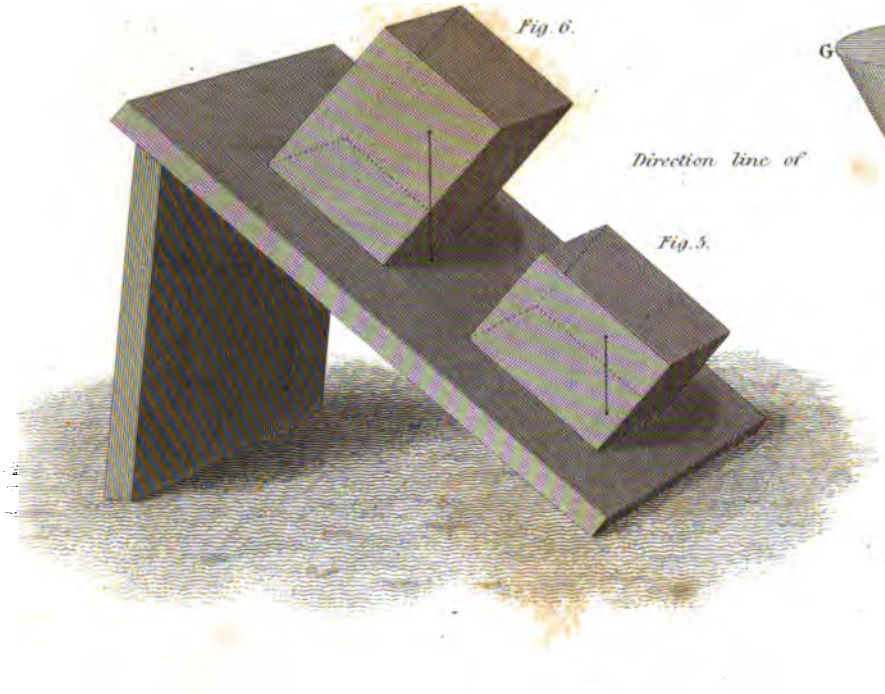


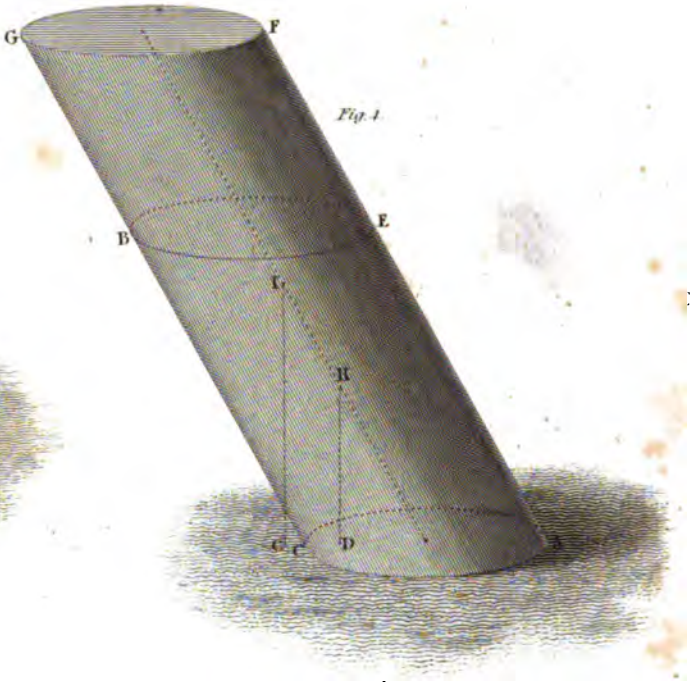
J. Farey Junr. delin. Published as the Act directs, 1829, by Longman, Hurst, Rees & Orme, Paternoster Row. Engraved by Wilson Lowry.

MECHANICS.

DIRECTION of Motion.



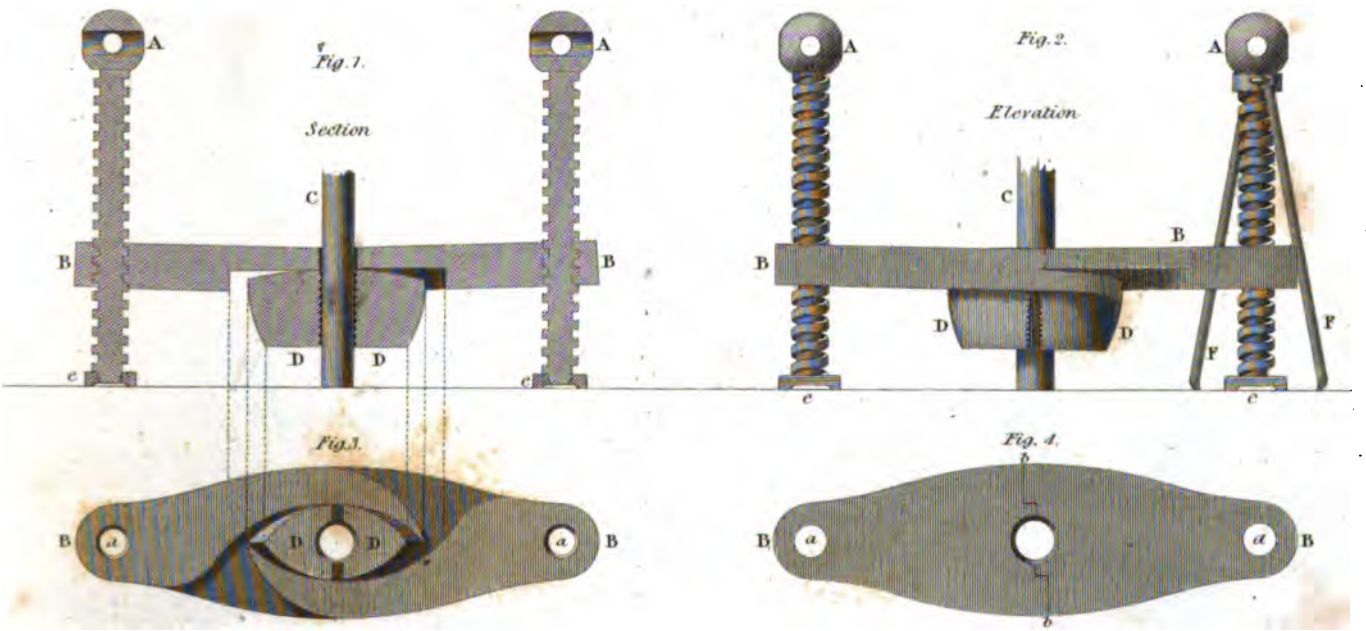




MECHANICS.

Mr. Hill's Machine for **DRAWING** *out Ships Bolts.*

PLATE XXIII.



Plan of the lower Side.

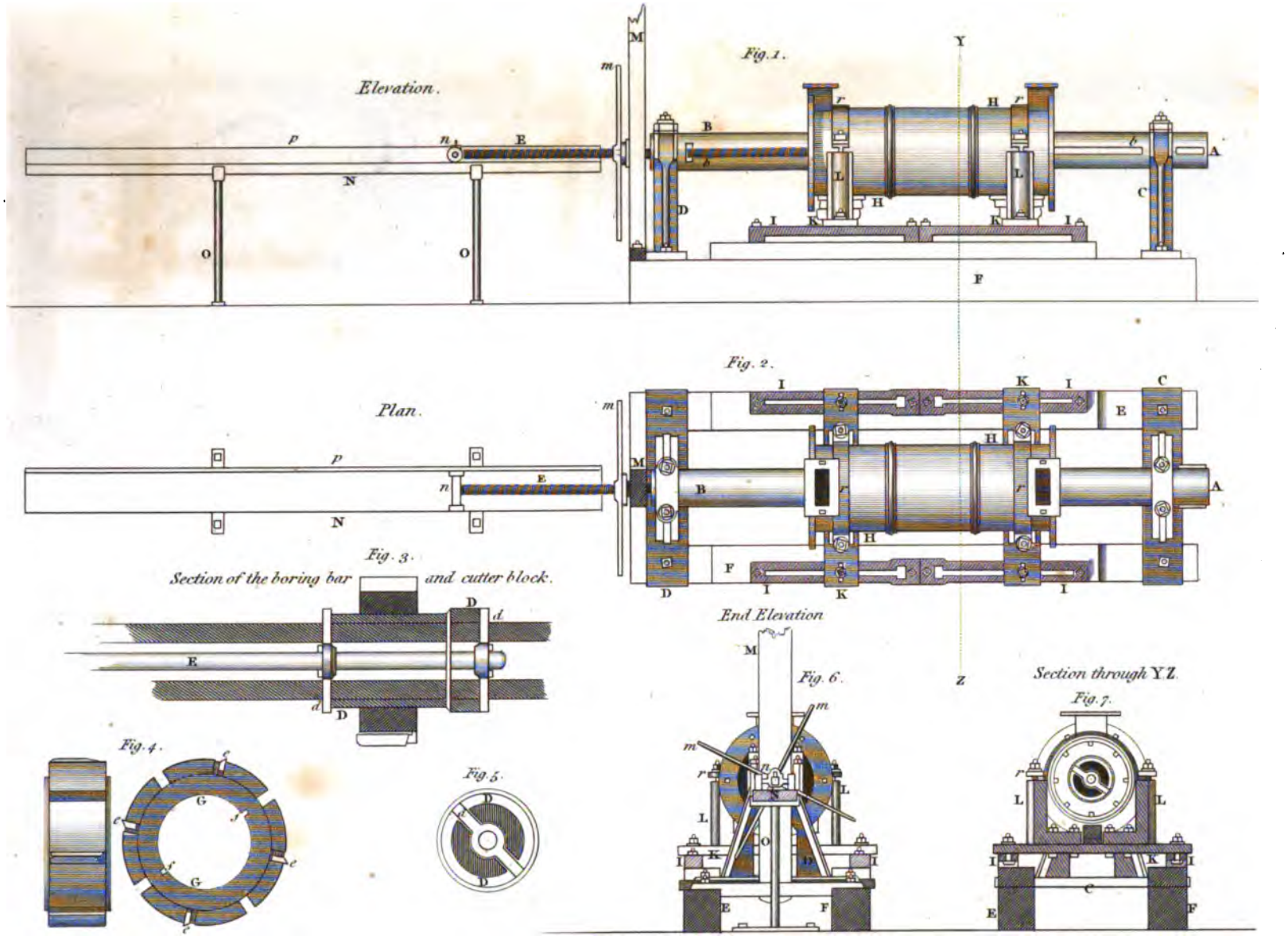
Plan of the upper Side.

J. Farey del.t

Published as the Act directs Oct.r 1.st 1815 by Longman, Hurst, Rees, Orme & Brown Paternoster Row.

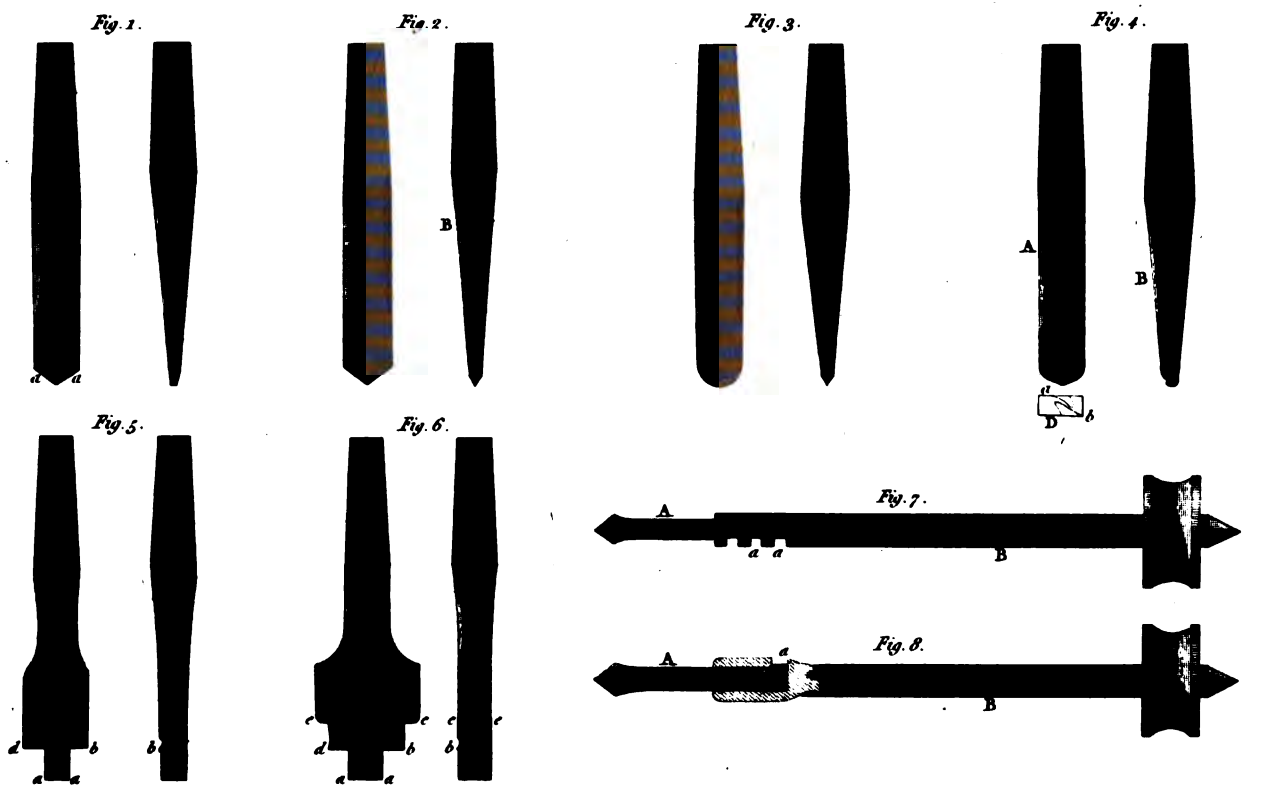
Engraved by Wilson Lowry.

Machine for boring Cylinders, at the Falcon Iron Foundery, made by Mr. Dixon.

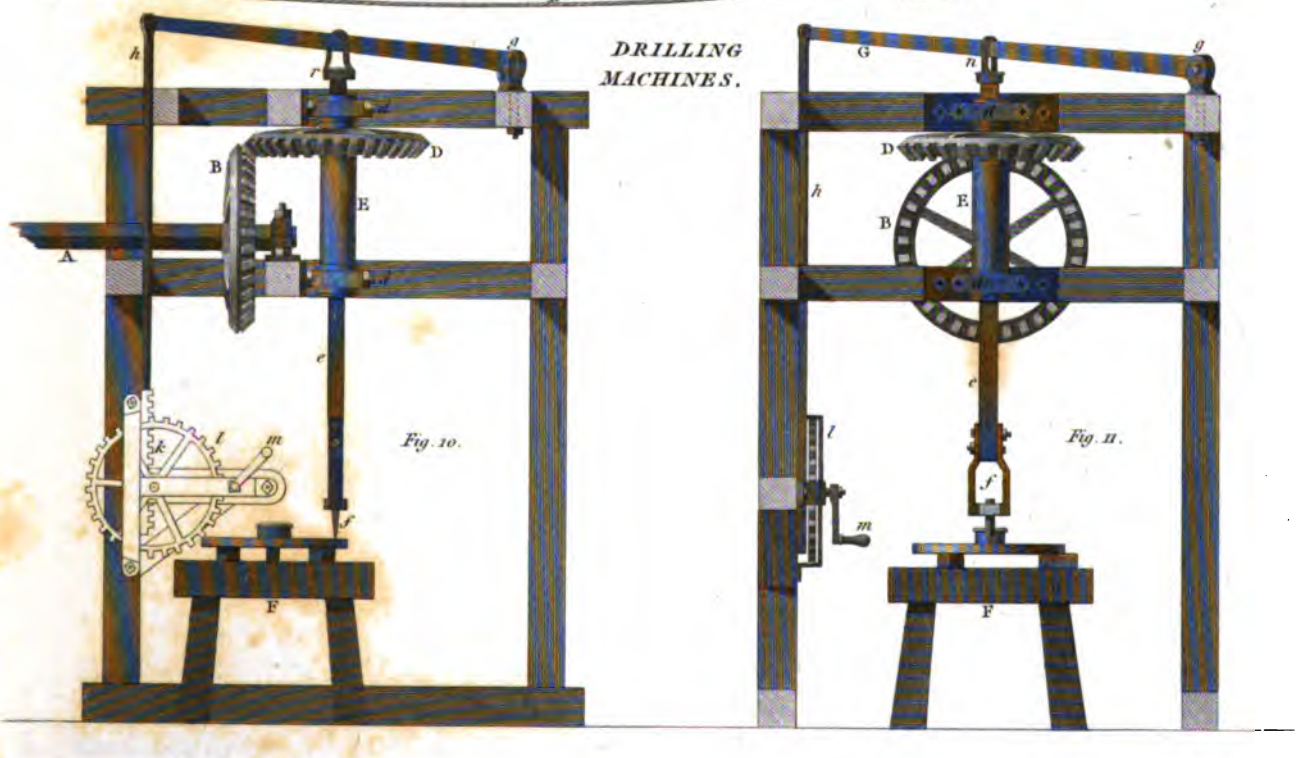


J. Farey Junr. delin. Published as the Act directs, 1818, by Longman, Hurst, Rees & Orme, Paternoster Row. Engraved by Wilson Lowry.

DRILLS.



DRILLING MACHINES.



J. Farey Jun.r del.in. Published as the Act directs, 1810, by Longman, Hurst, Rees & Orme, Paternoster Row. Engraved by Wilson Lowry.

Fig. 1.

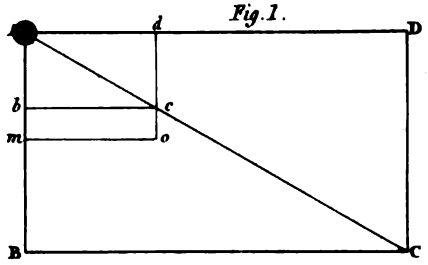
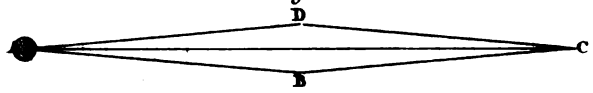


Fig. 2.



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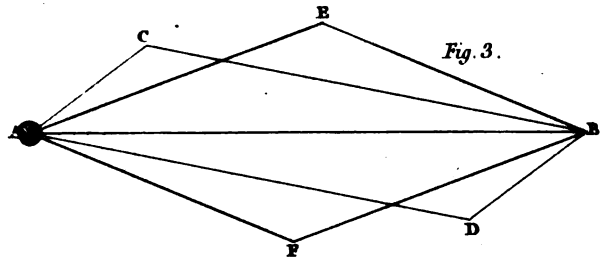


Fig. 4.

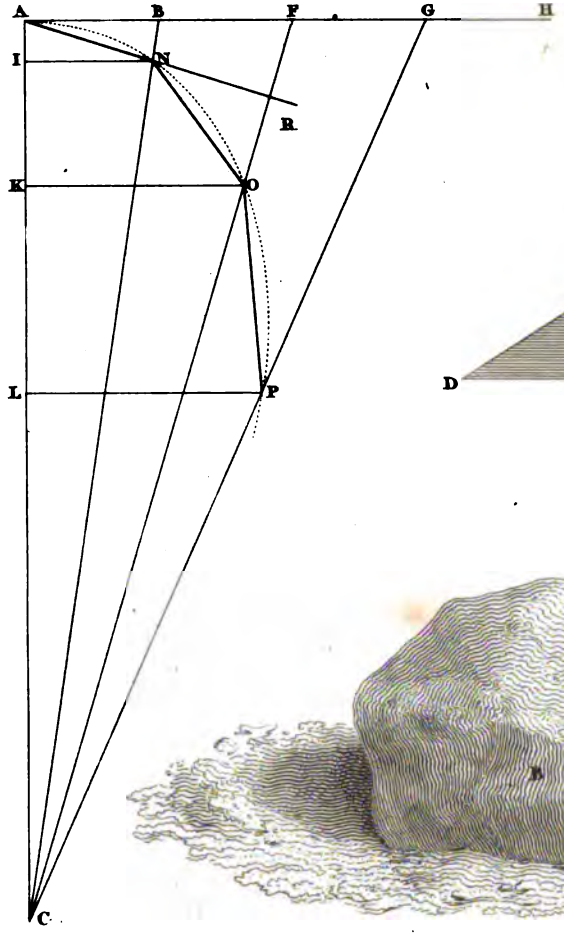


Fig. 5.

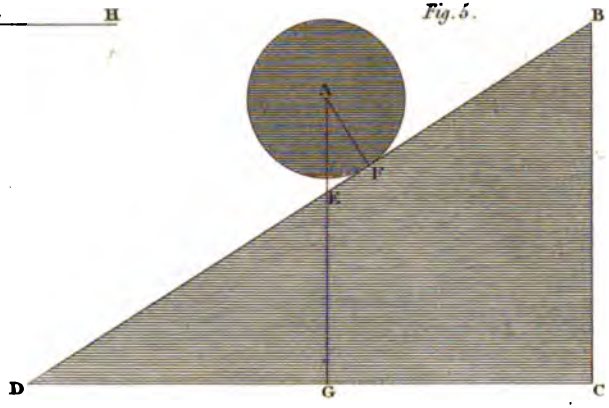


Fig. 6.

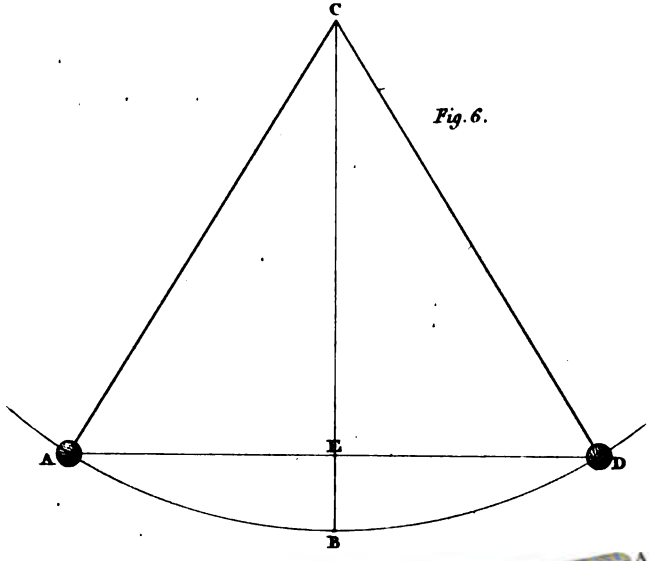
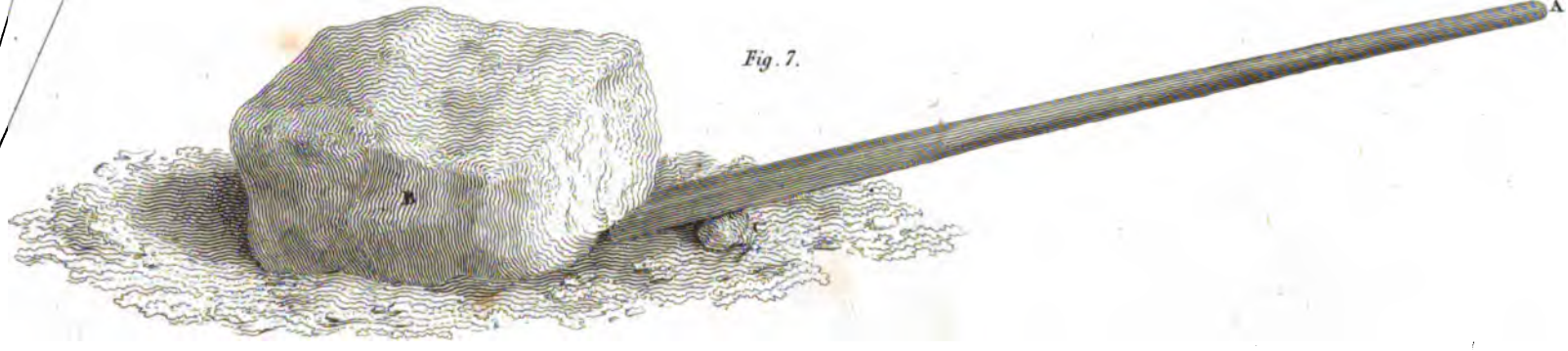


Fig. 7.



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Engraved by Wilson Lowry.

MECHANICS.

DYNANOMETERS.

FOR MEASURING THE FORCE OF DRAUGHT.

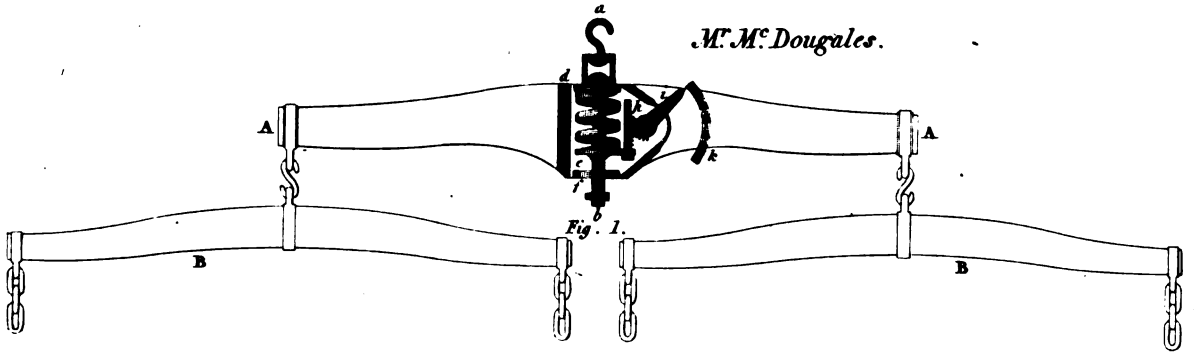


Fig. 1.

Fig. 3.

M.r Salmons contrivance for determining the force required to work a Mill.

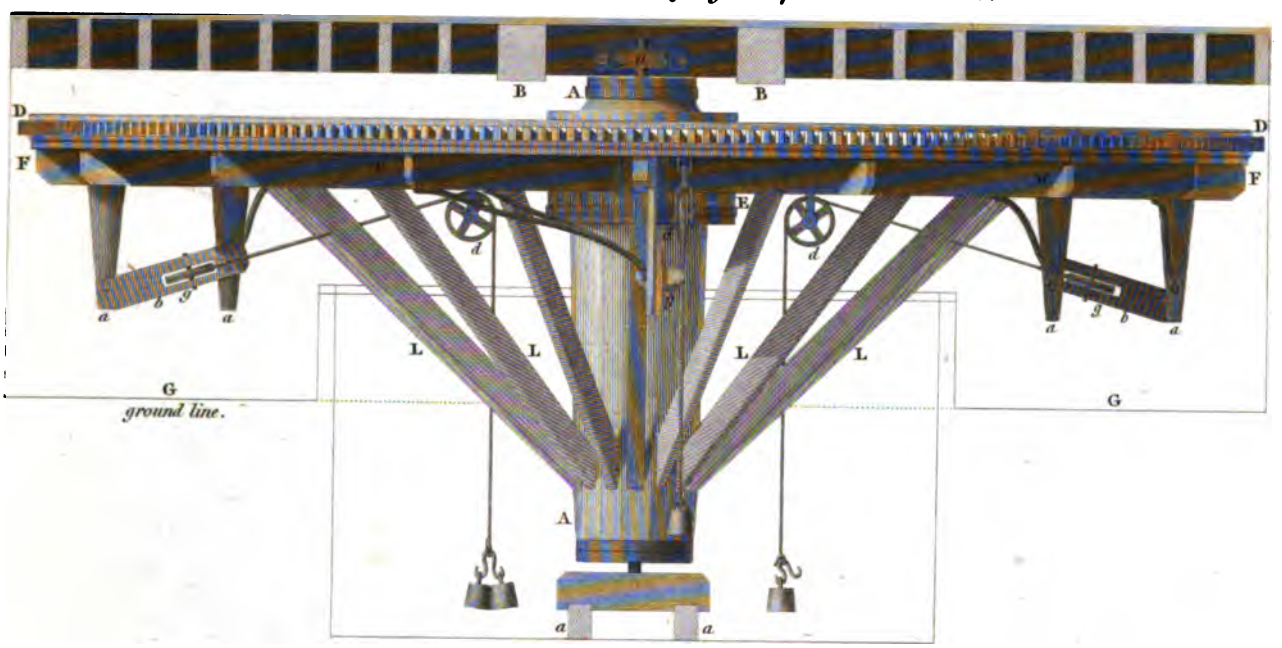
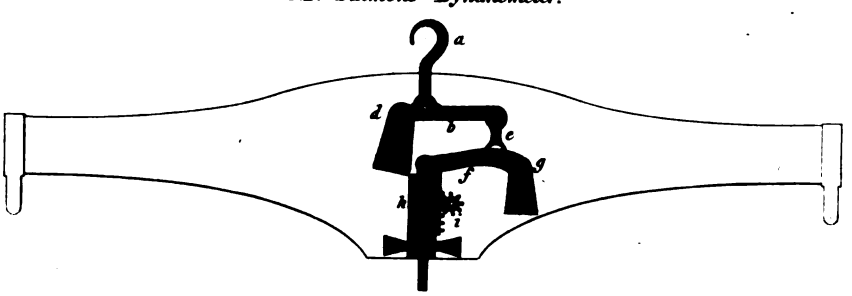


Fig. 2.

M.r Salmons Dynanometer.



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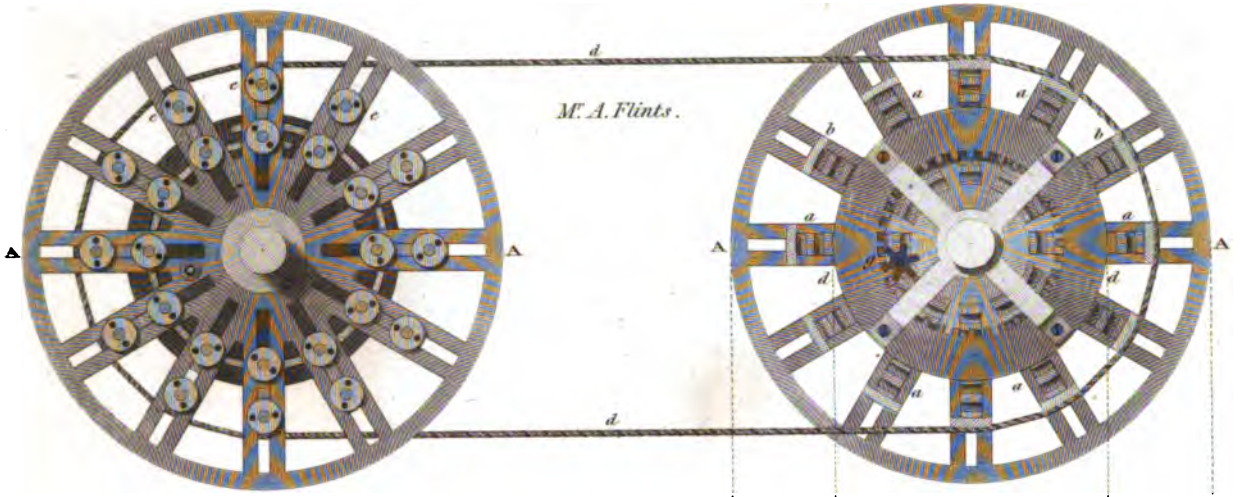
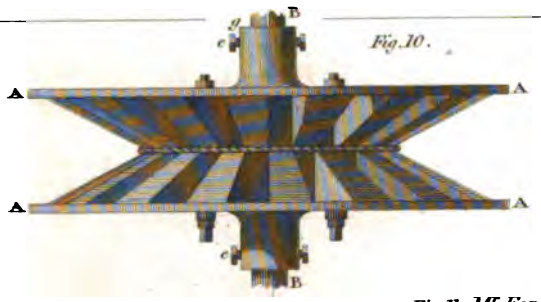
MECHANICS.

EXPANDING RIGGERS.

Fig. 5.

Fig. 6.





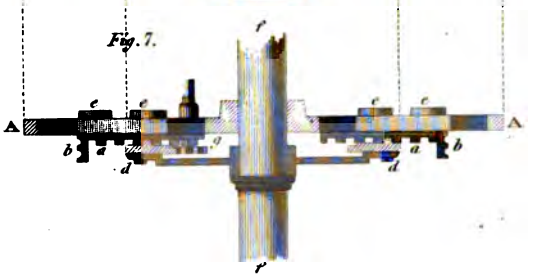


Fig. 11. Mr. Farey's.

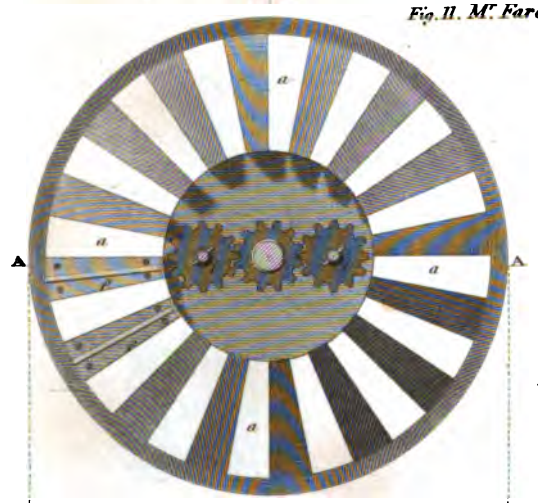
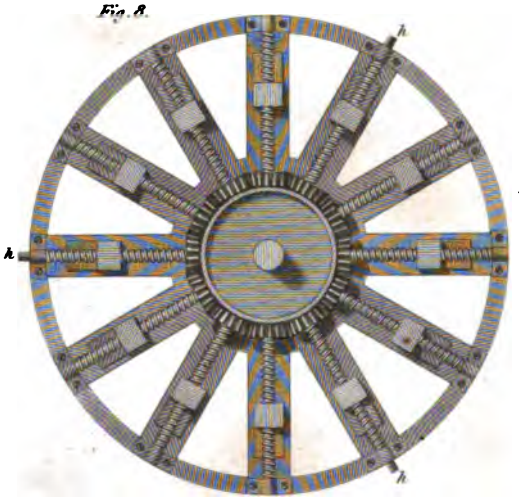


Fig. 8.



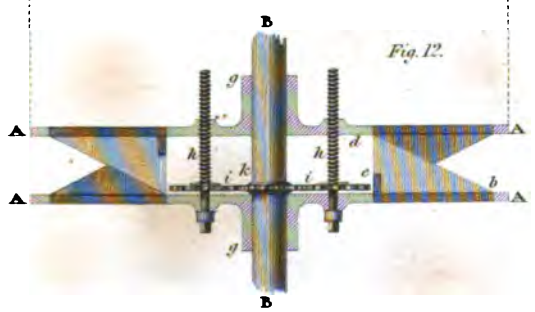
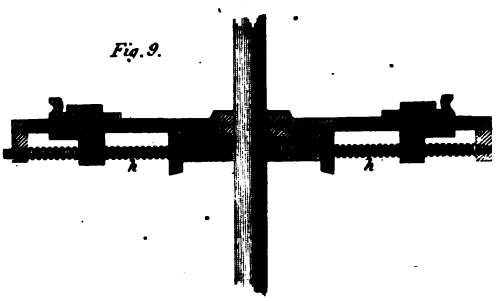


Fig. 9.



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MECHANICS.

FLY-PRESS.

PLATE XXVII.

Fig. 1.

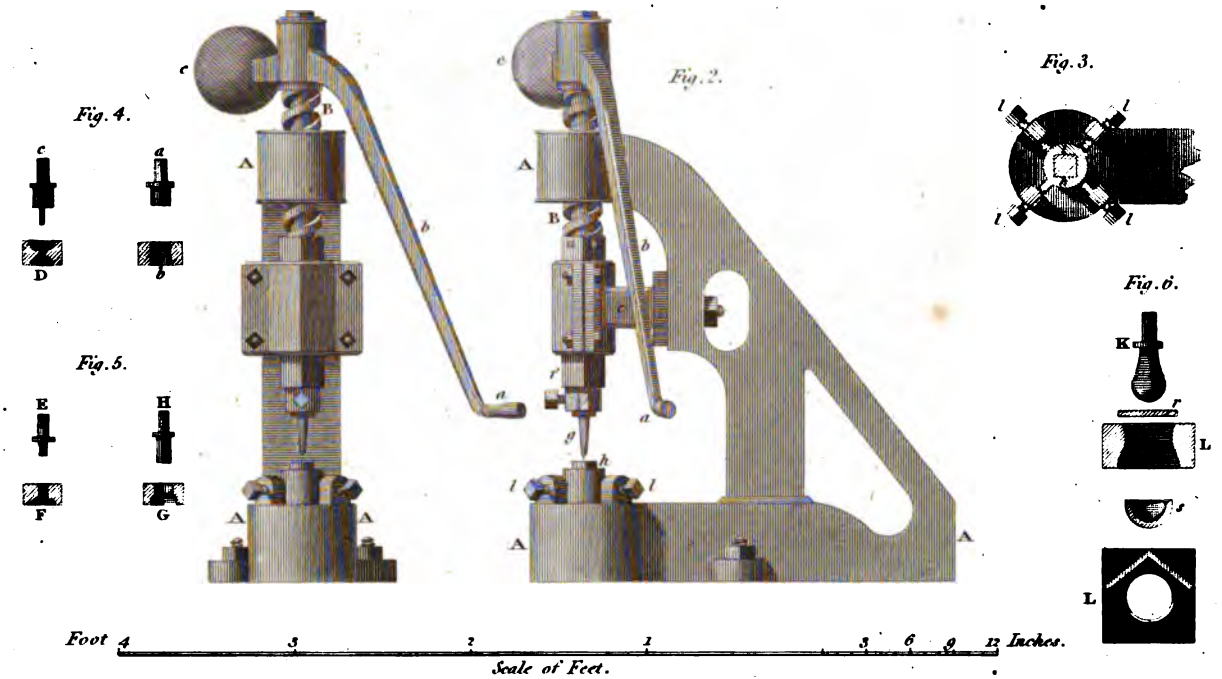
Fig. 2.

Fig. 3.

Fig. 4.

Fig. 5.

Fig. 6.



Scale of Feet.

Fig. 7.

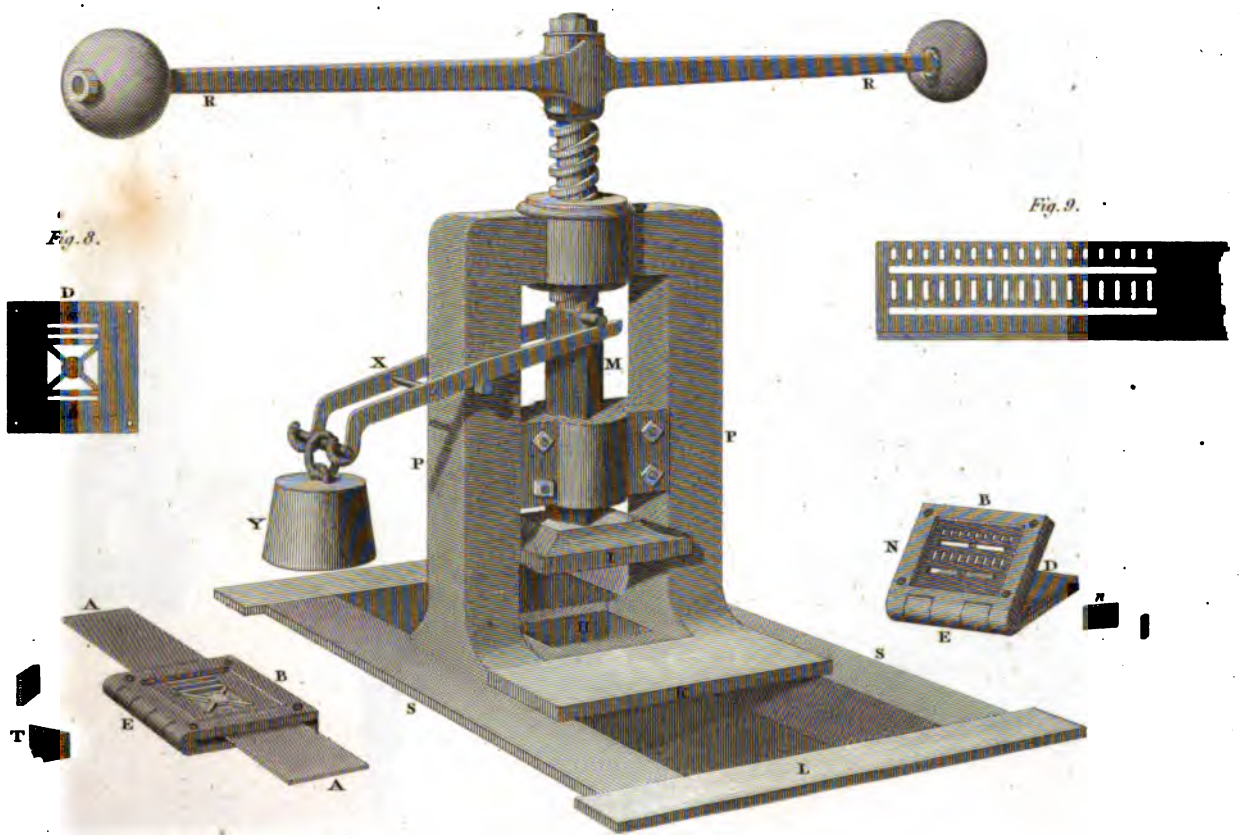


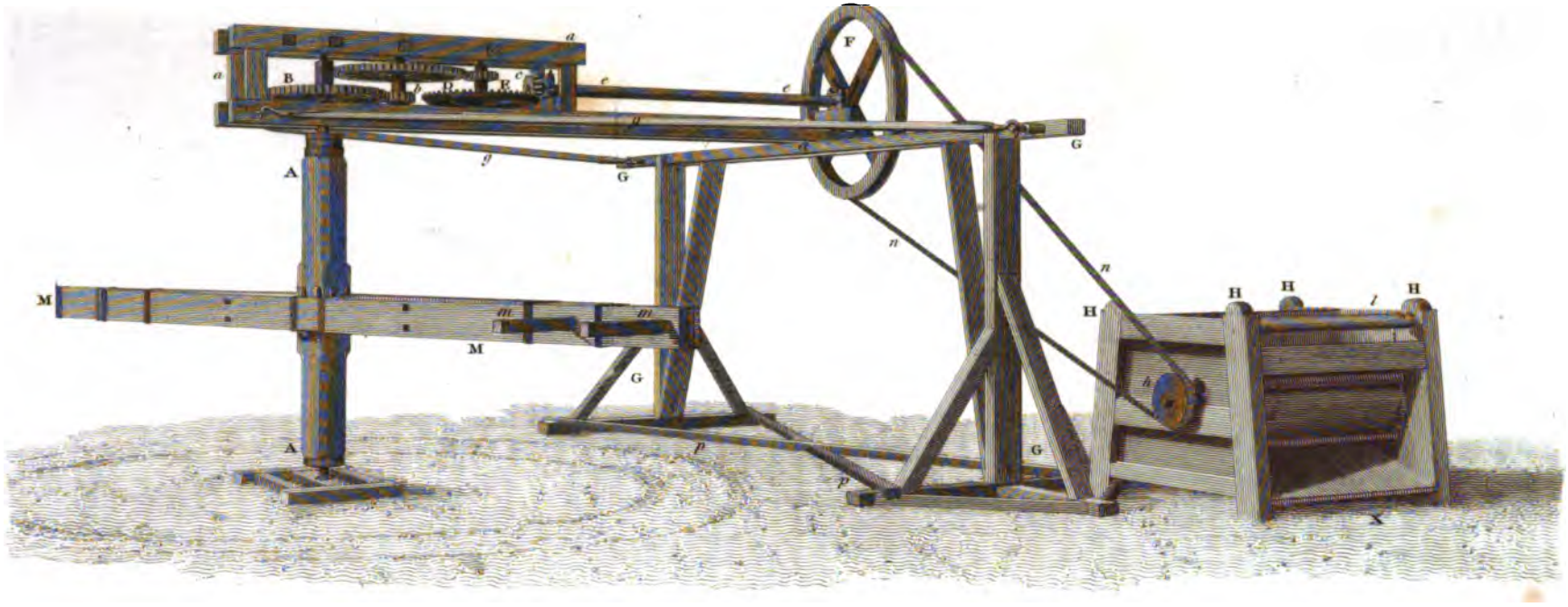
Fig. 8.

Fig. 9.

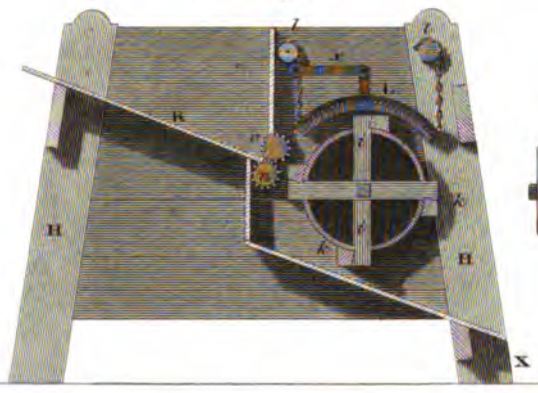
Farey del. *Published as the Act directs, 1814, by Longman, Hurst, Rees, Orme & Brown, Paternoster Row.* *Lowry sculp.*

Mr. R. SALMON'S, PORTABLE THRASHING MILL.

Perspective View Fig. 1.



Section Fig. 2.

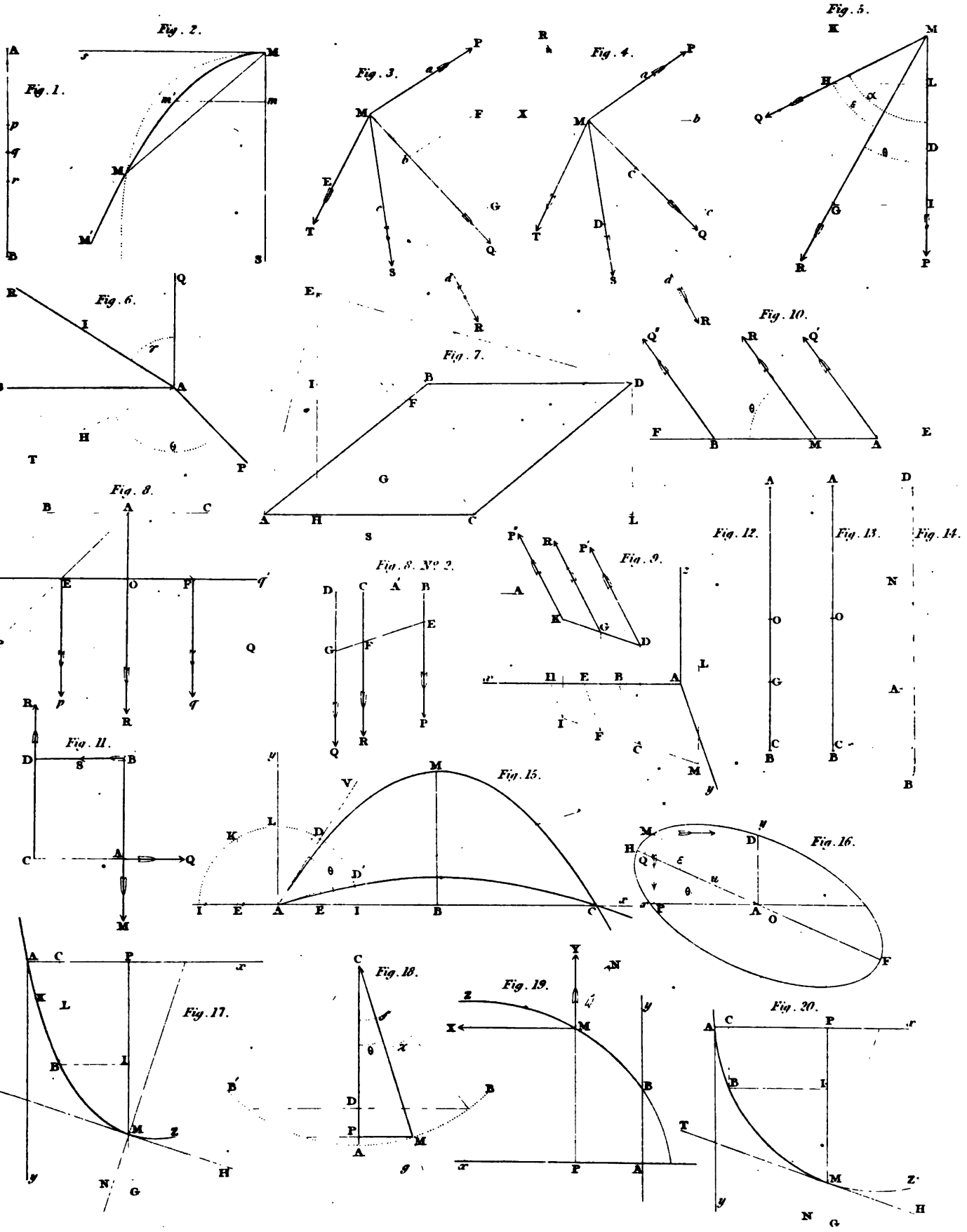


End View Fig. 3.

Elevation Fig. 4.

Farey Jun. del. Published as the Act directs, 1824, by Longman, Hurst, Rees, Orme & Brown, Paternoster Row, London. Lowry sculp.

FORCE.



Published as the Act directs, 1808, by Longman, Hurst, Rees, Orme & Brown, Paternoster Row.

FRICTION AND FULLING MILL.

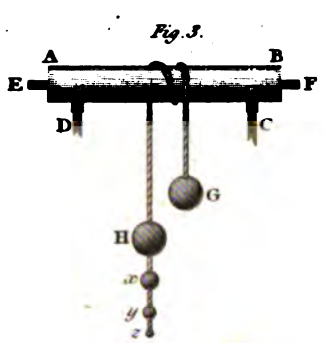


Fig. 3.

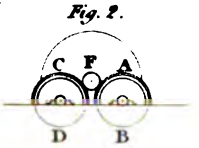


Fig. 2.

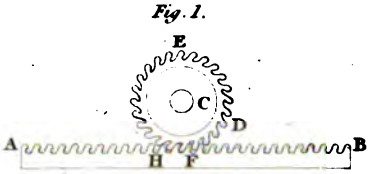
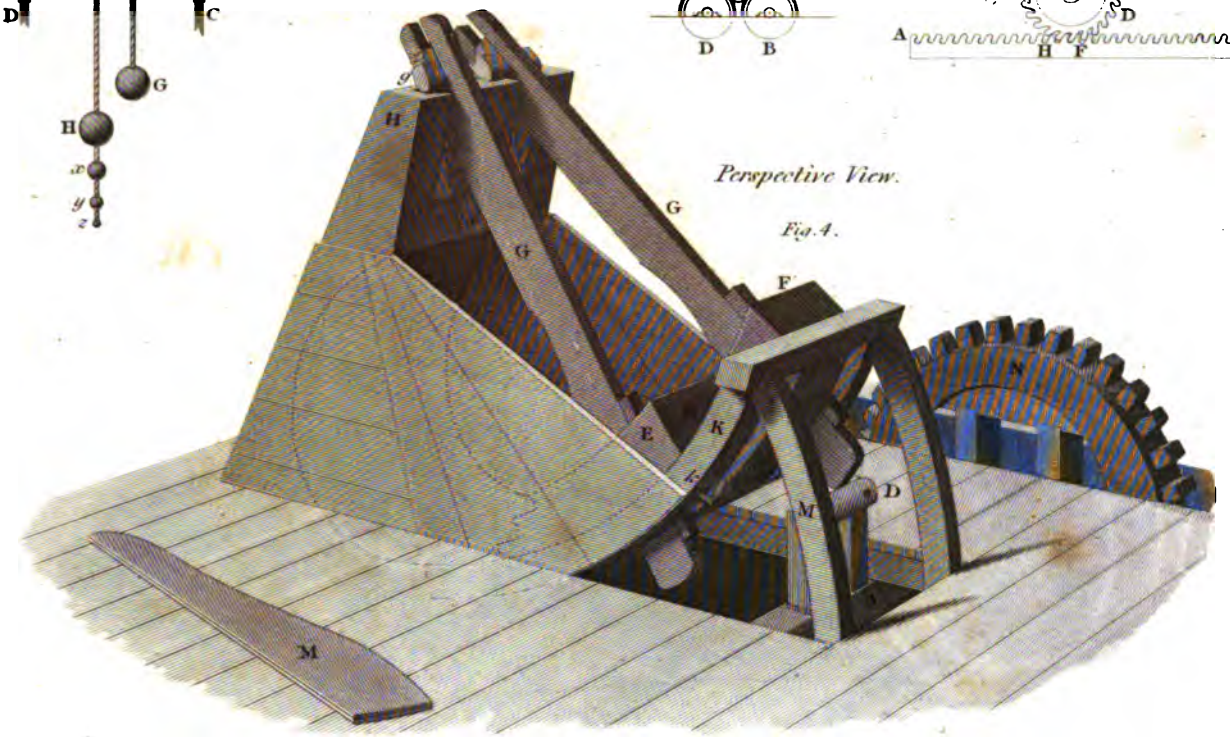


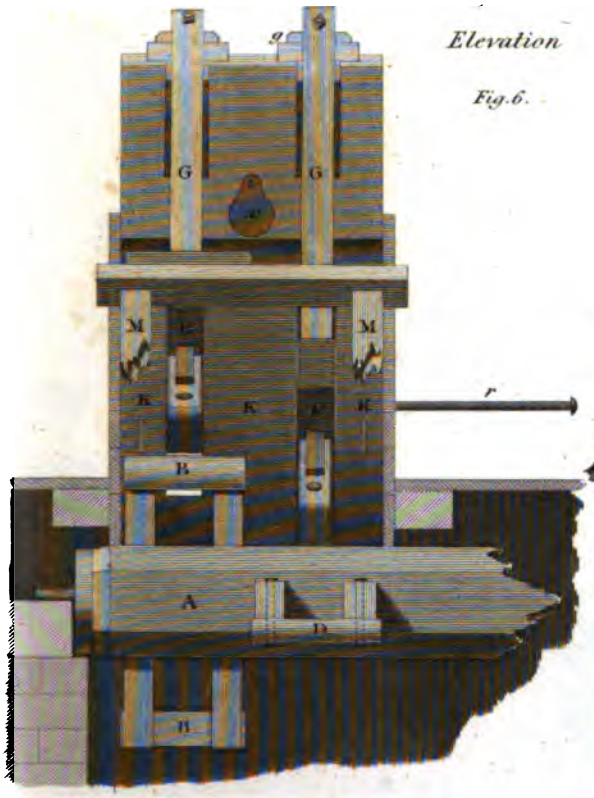
Fig. 1.



Perspective View.

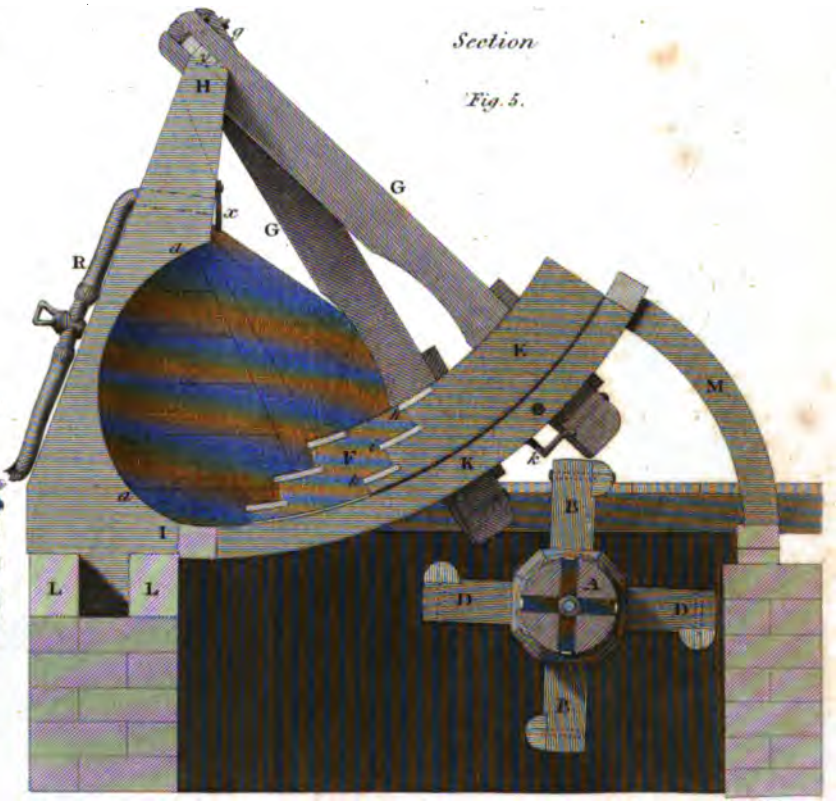
Fig. 4.

Note, these Stocks are for Scouring; for Milling cloth the trough a.a. is differently formed. see Woollen.



Elevation

Fig. 6.

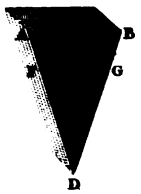


Section

Fig. 5.

J. Farey Junr. del. Published as the Act directs, 1817, by Longman, Hurst, Rees, Orme & Brown, Paternoster Row. Lowry Sc.

Fig. 1.



WEDGE.

Fig. 2.

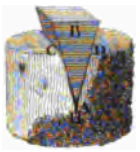


Fig. 3.

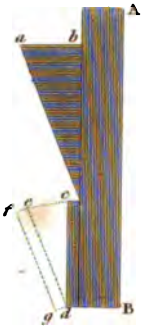


Fig. 4.

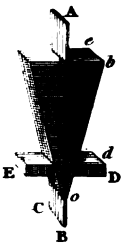
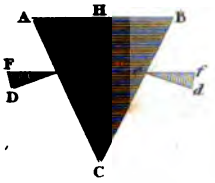


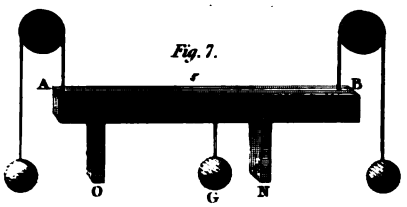
Fig. 5.



WHEEL.

Fig. 8.

Fig. 7.



WEIGHT.

Fig. 6.

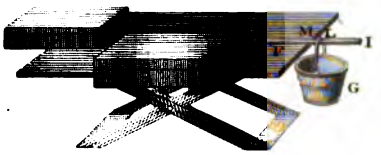


Fig. 9.

Fig. 10.

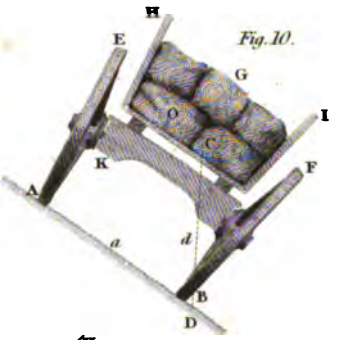


Fig. 11.

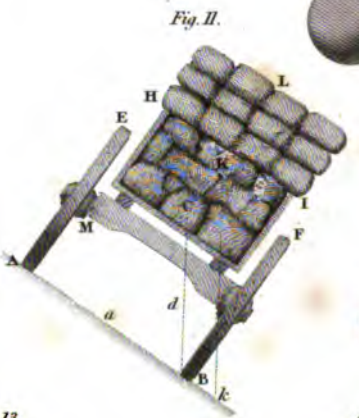


PLATE XXXVI.

Fig. 12.

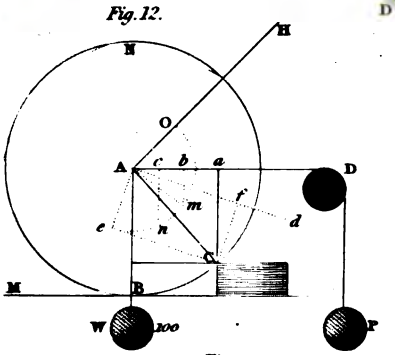


PLATE XXXVI.

Fig. 13.

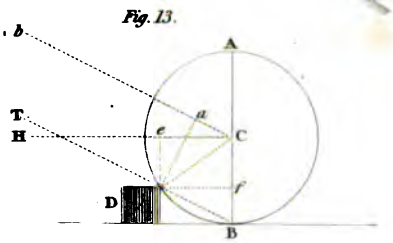


PLATE XXXVI.

Fig. 13.

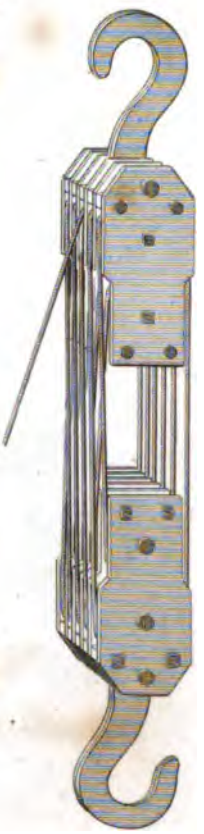


PLATE XXXVI.

Fig. 14.

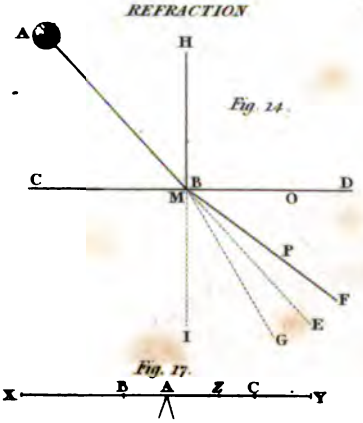


Fig. 15.

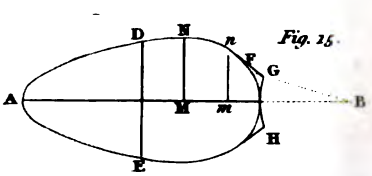


Fig. 16.

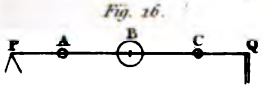


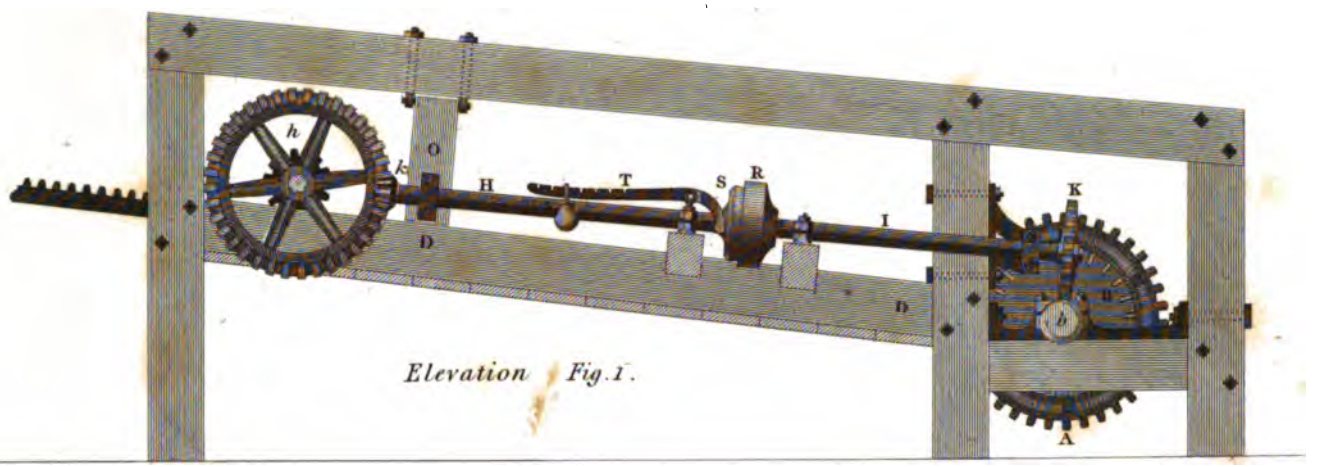
Fig. 17.

Published as the Act directs, 1809, by Longman, Hurst, Rees, Orme & Brown, Paternoster Row, London.

Lowry sculp.

MECHANICS.

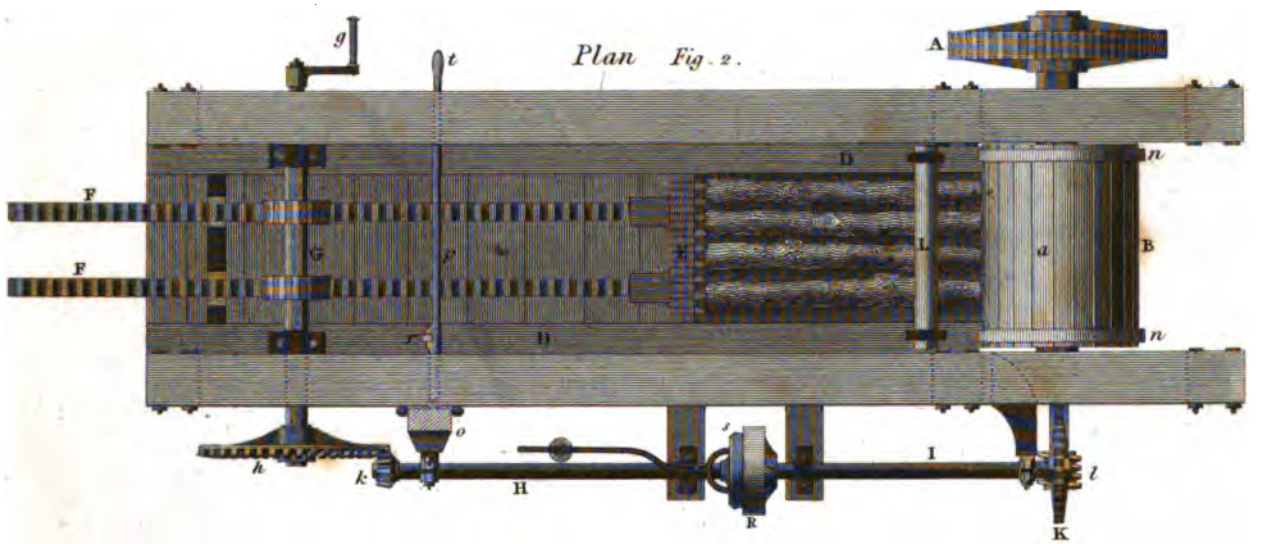
LOG-WOOD MILL.



Elevation Fig. 1.

Scale of Feet

0 1 2 3 4 5 6 7 8 9 10 11 12 13



Plan Fig. 2.

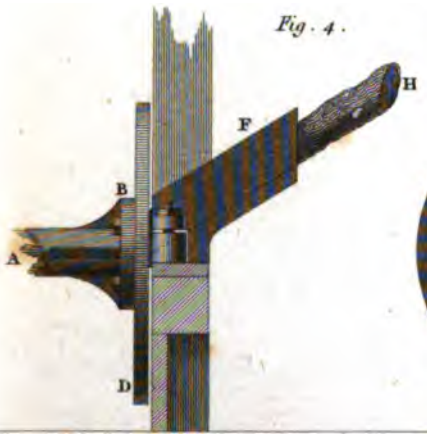


Fig. 4.

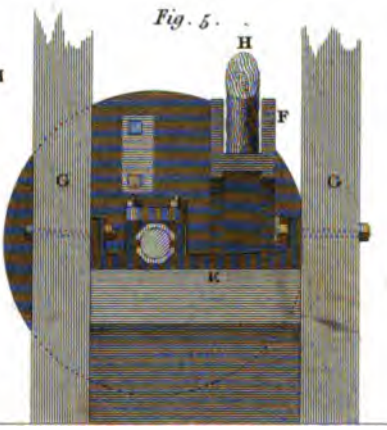


Fig. 5.

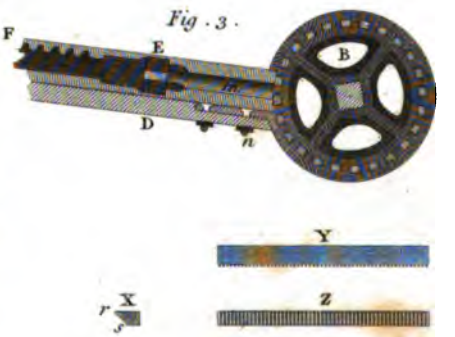


Fig. 3.

J. Farey Junr. delin. Published as the Act directs, 1813, by Longman, Hurst, Rees, Orme & Brown, Paternoster Row. Engraved by W. Lowry.

MECHANICS

MECHANICAL POWERS &c.

Fig. 3

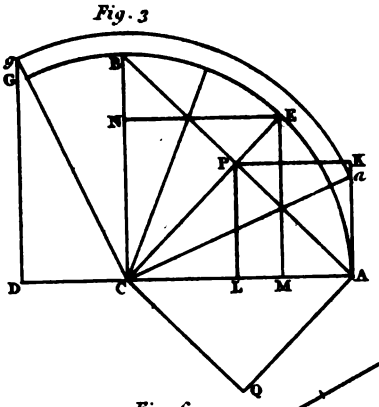
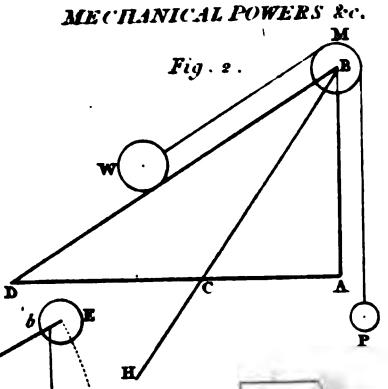


Fig. 2.



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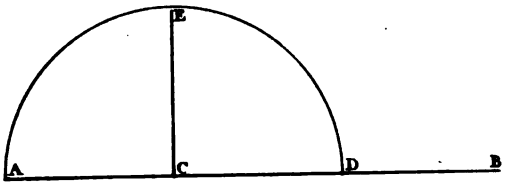

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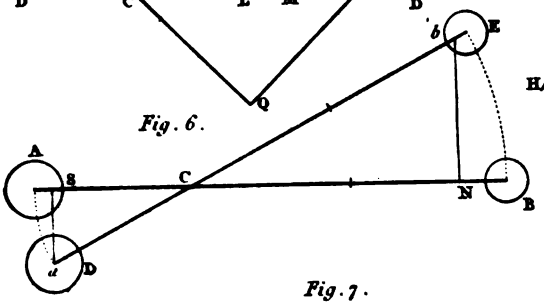

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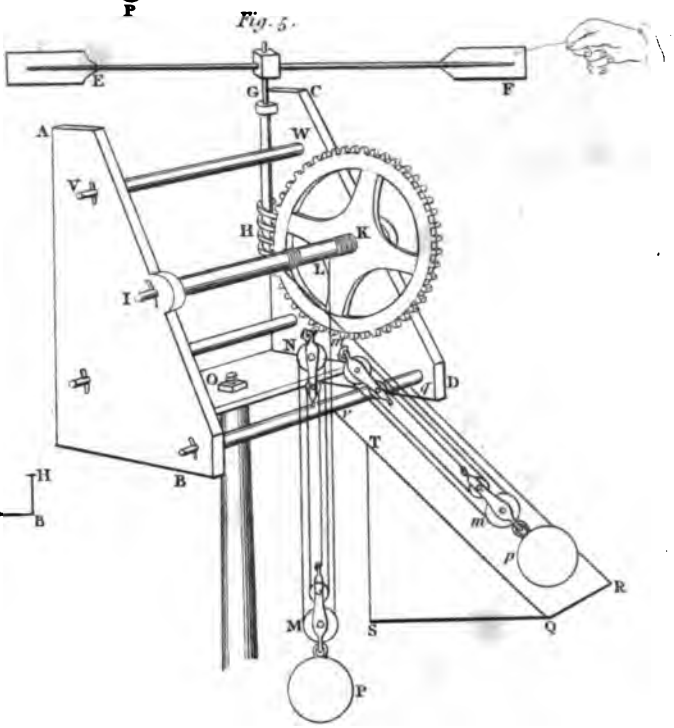

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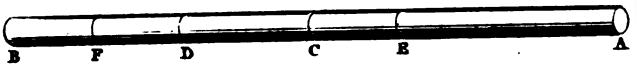

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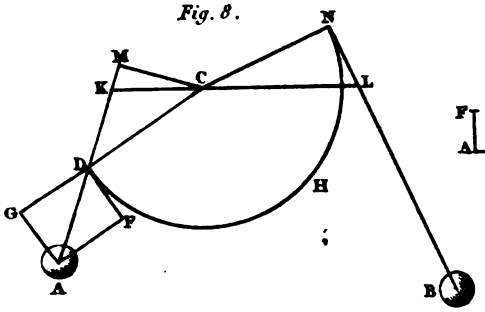

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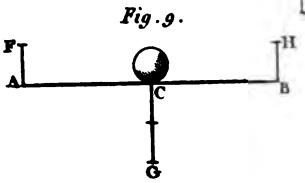

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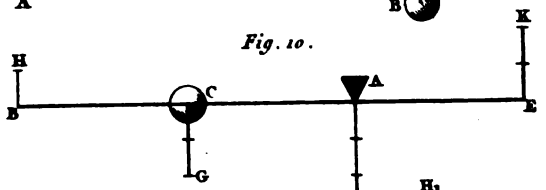

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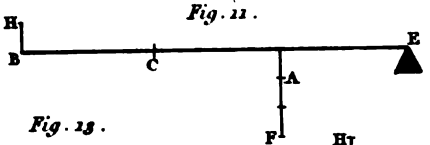

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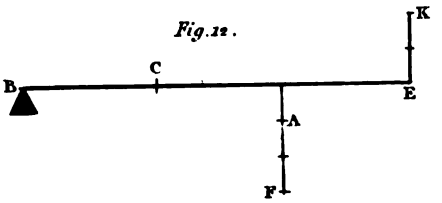

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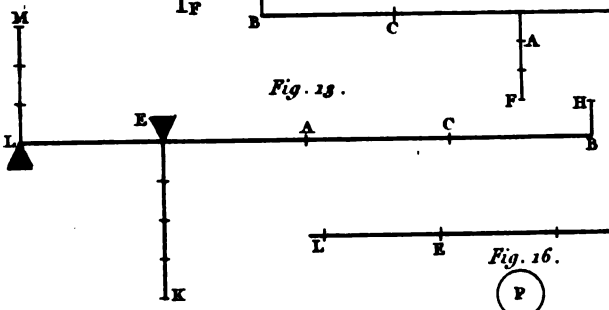
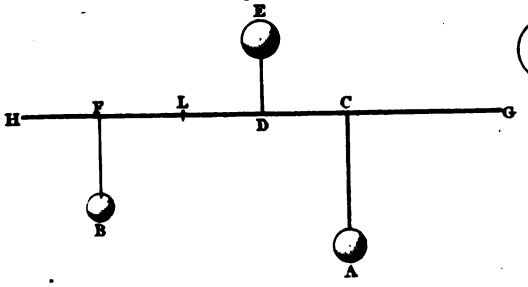


Fig. 14.

Fig. 15.



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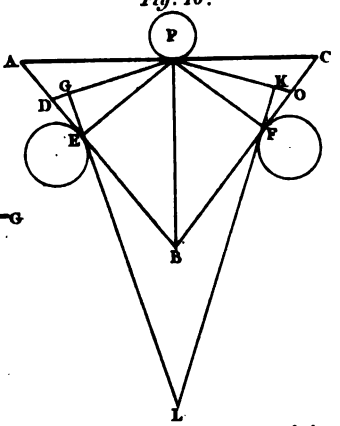

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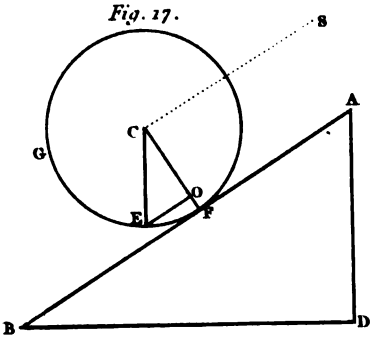

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Engraved by W. Lowry.

Fig. 1.

View of a Common Breast Mill.

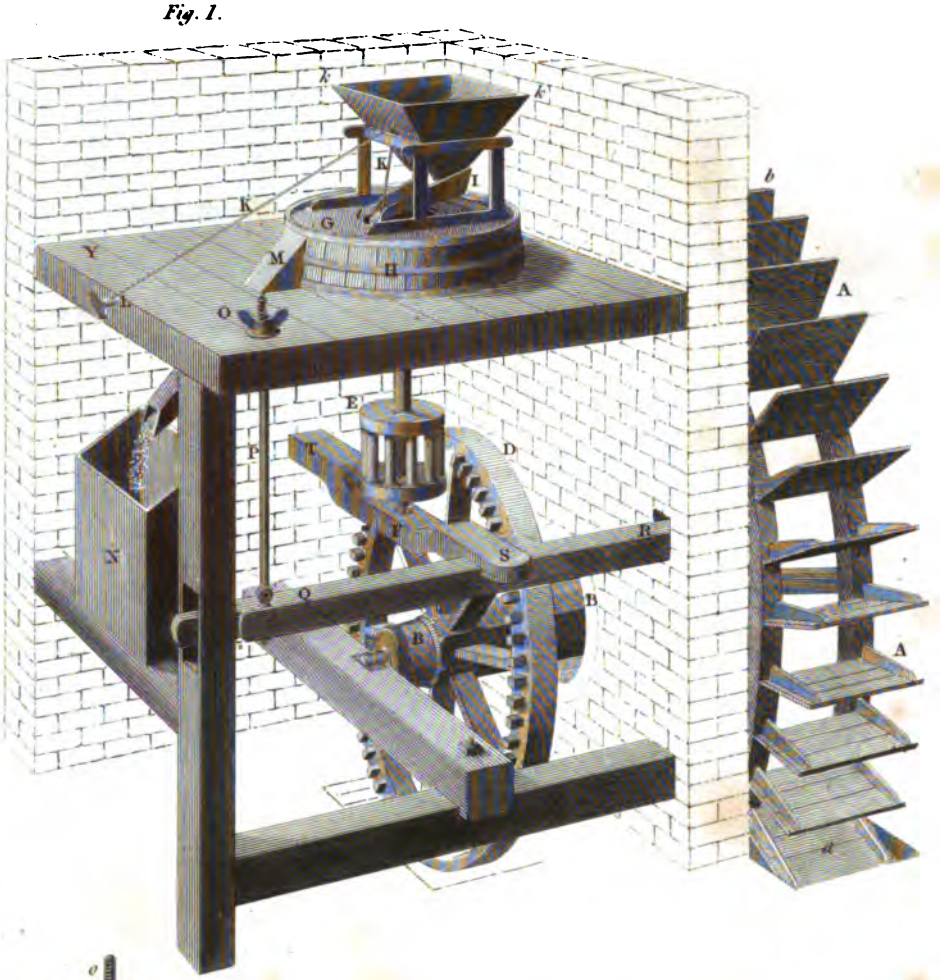
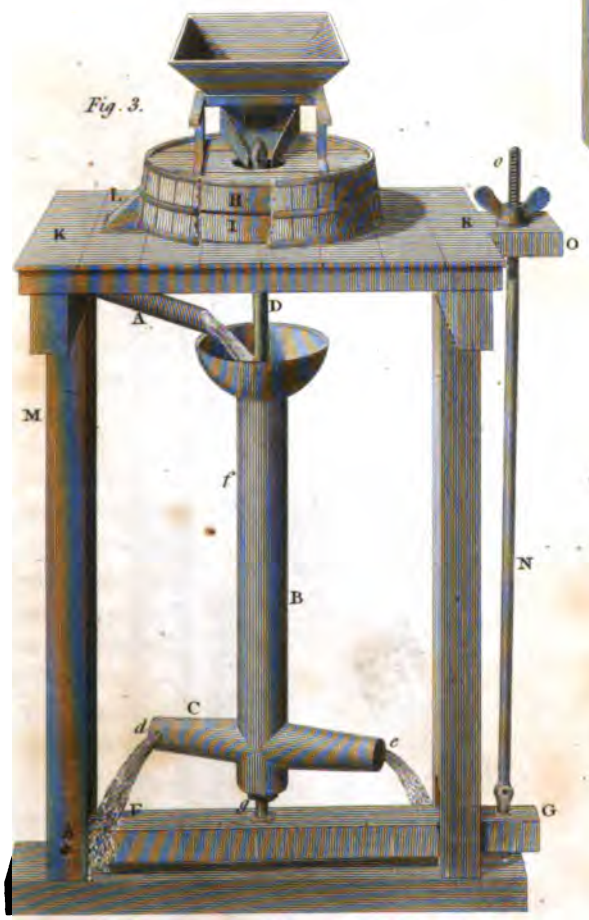


Fig. 2.

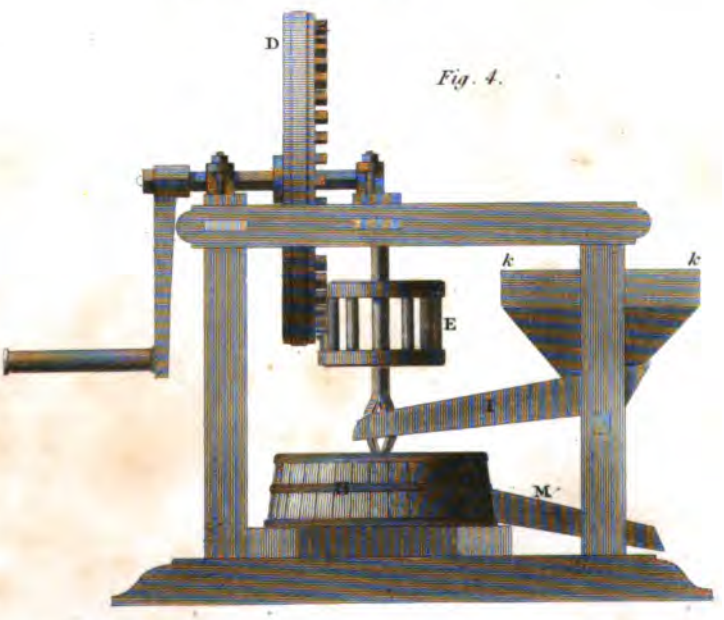
Dr Barker's Mill.

Fig. 3.

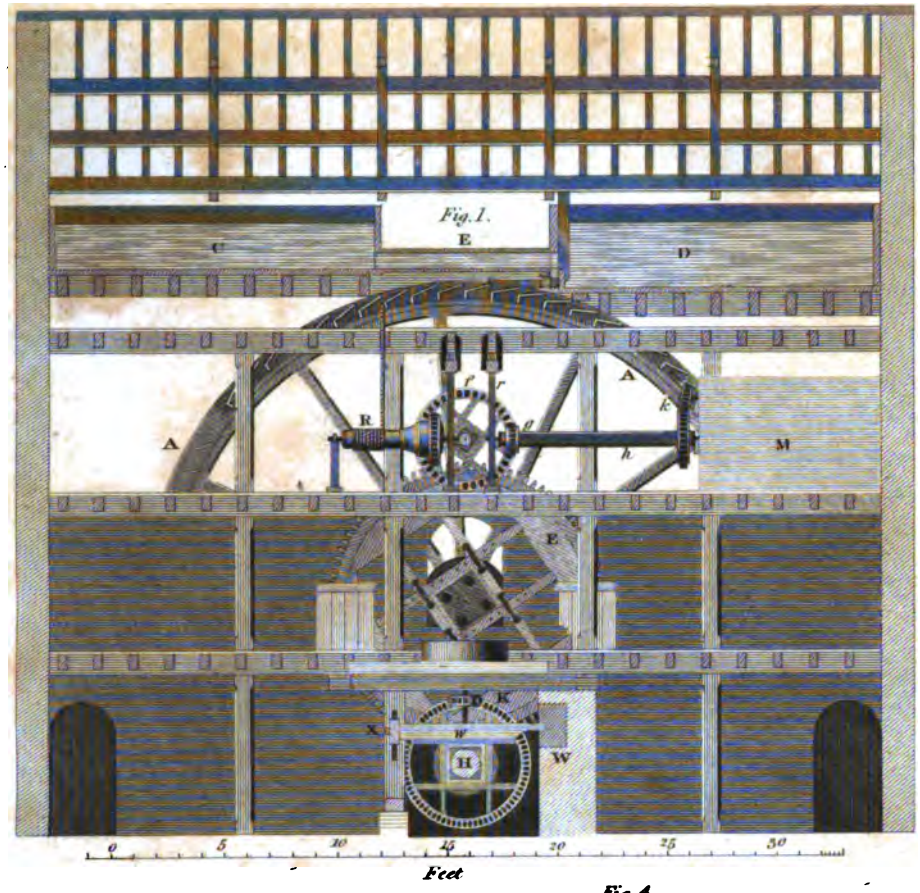


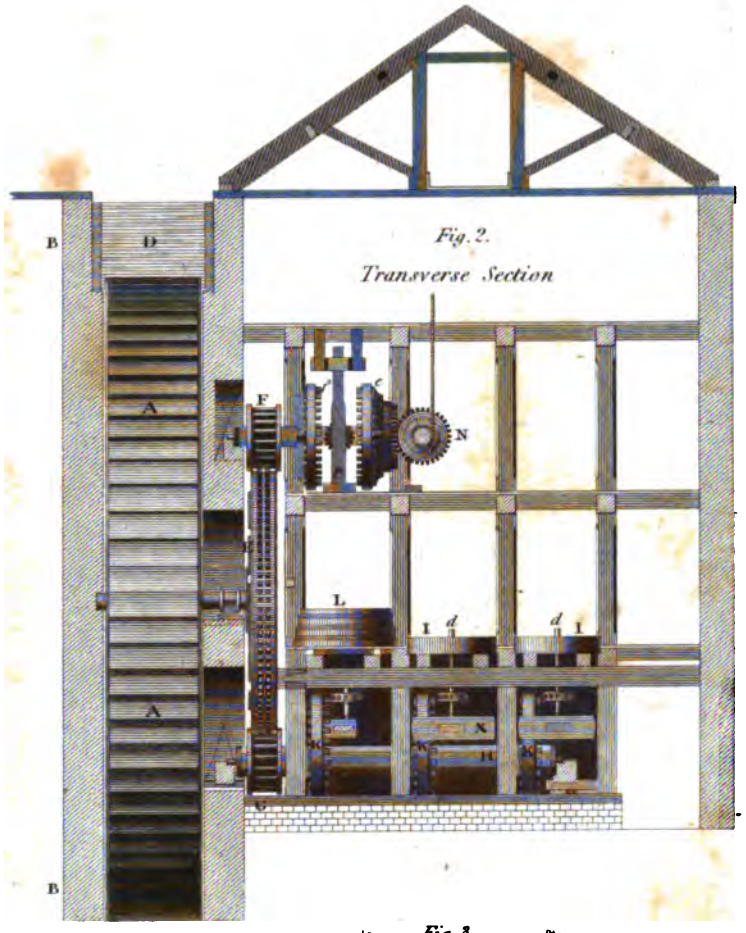
Portative or Hand Mill.

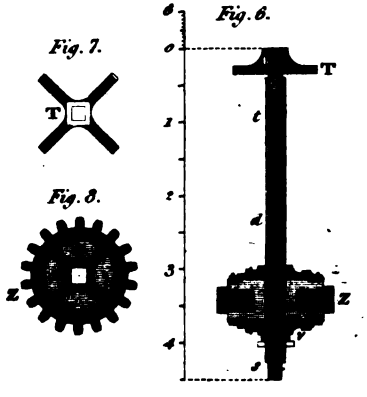
Fig. 4.

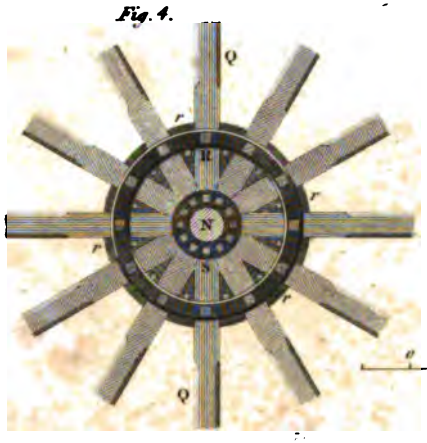


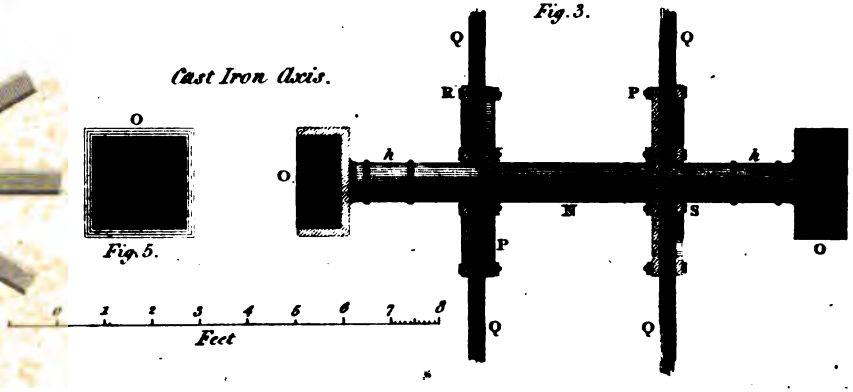
Designed by J. SMEATON, F.R.S. 1781.







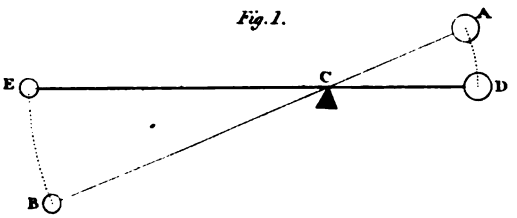




MECHANICS.

MOTION.&c.

Fig. 1.



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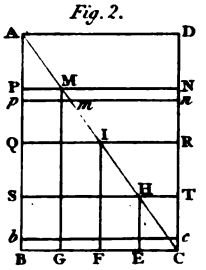

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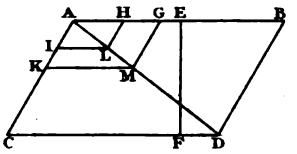

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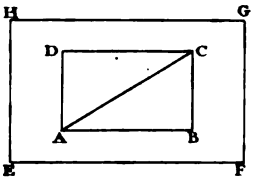

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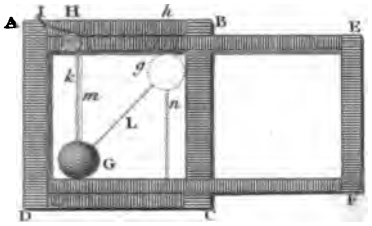

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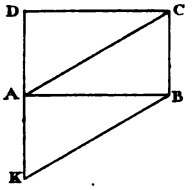

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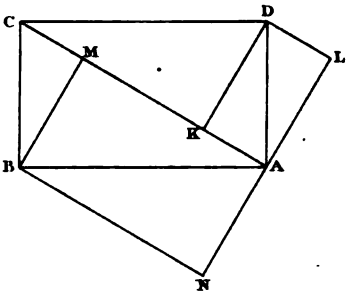

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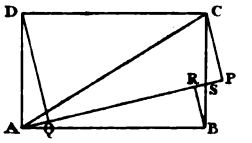

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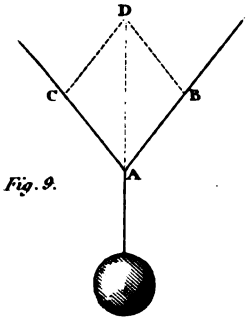

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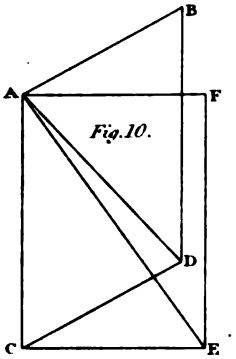
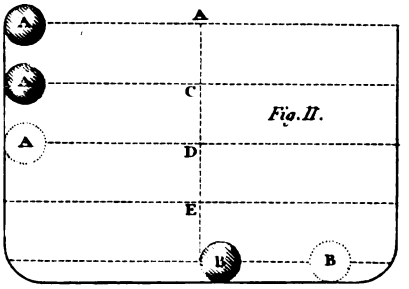


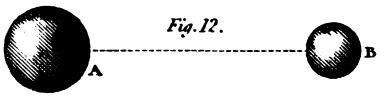
Perpetual MOTION

Fig. 11.



PERCUSSION

Fig. 12.



PERCUSSION

Fig. 13.

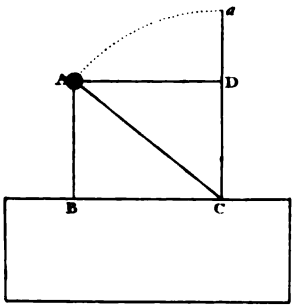
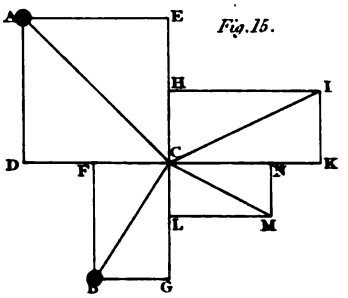


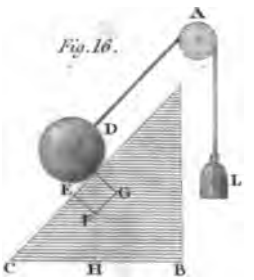
Fig. 14.

Fig. 15.



Inclined PLANE.

Fig. 16.



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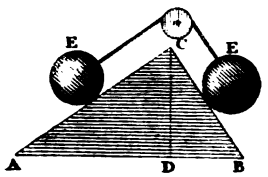

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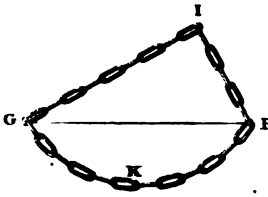

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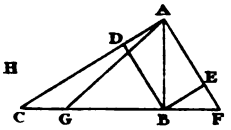

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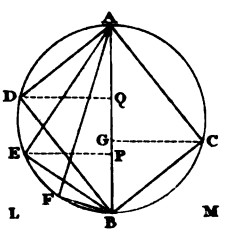

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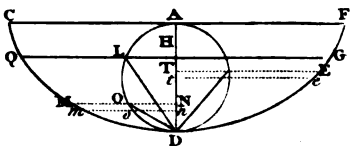

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Lowry sculp.

COLOUR MILL.

Fig. 2.

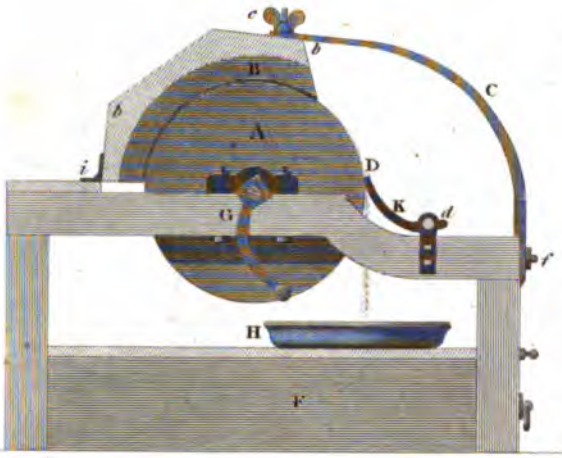
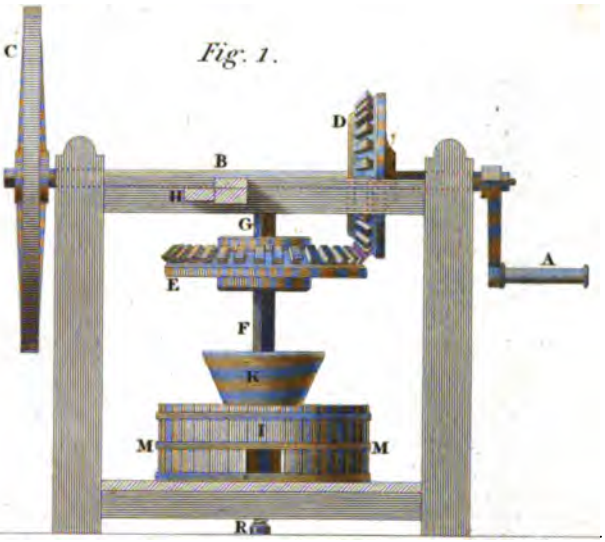


Fig. 1.



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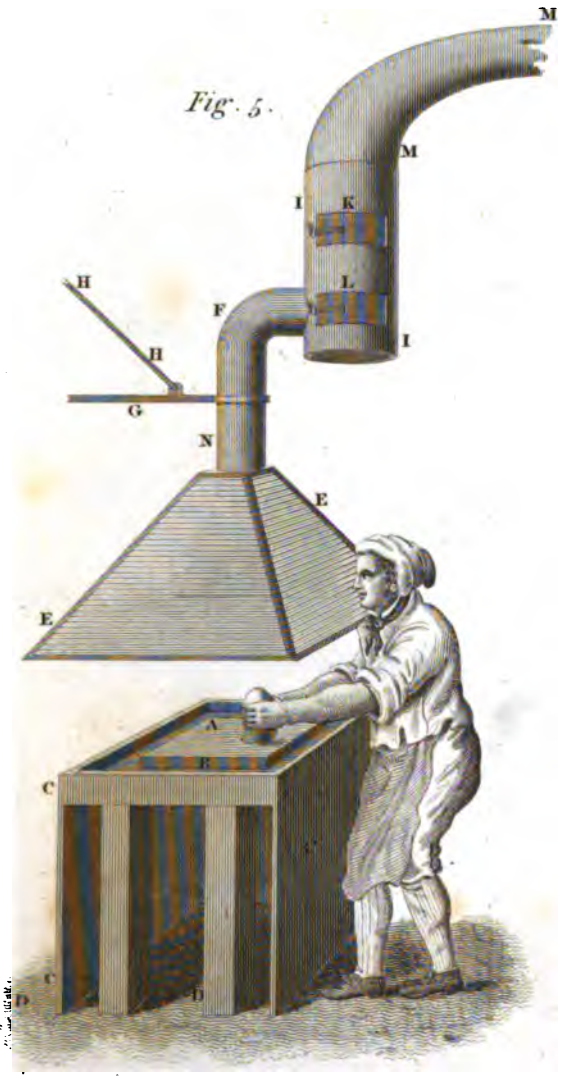


Fig. 4.

Fig. 3.

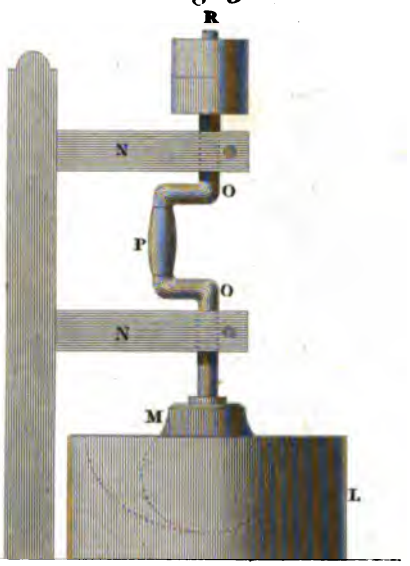
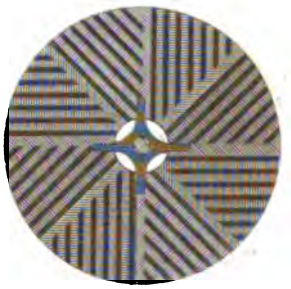


Fig. 6.

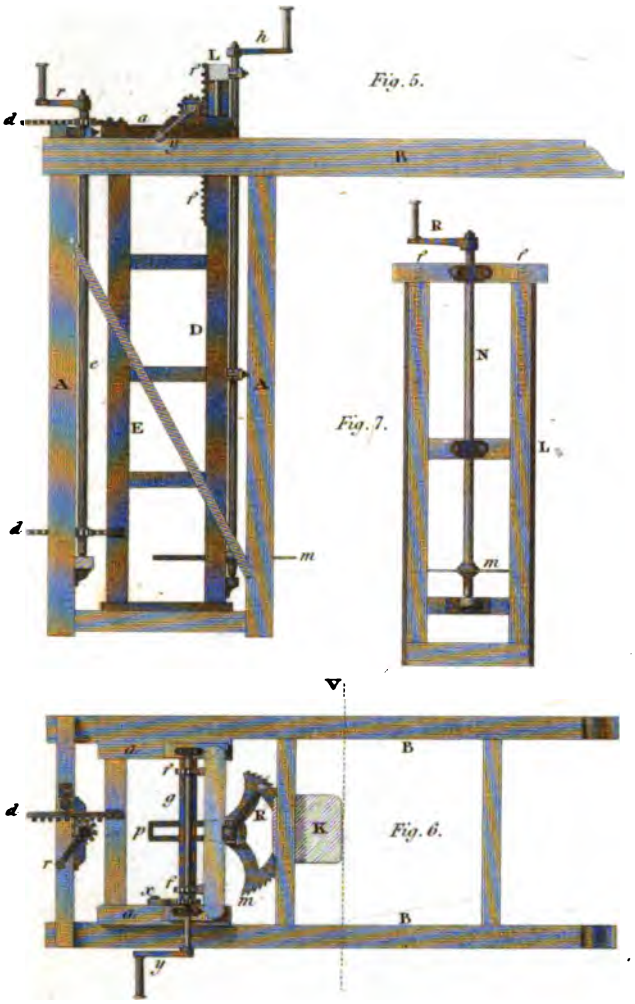
Lower Stone

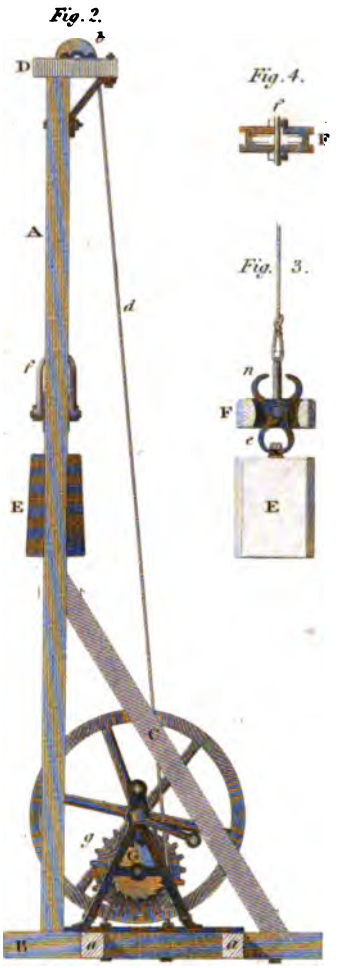
Upper Stone.

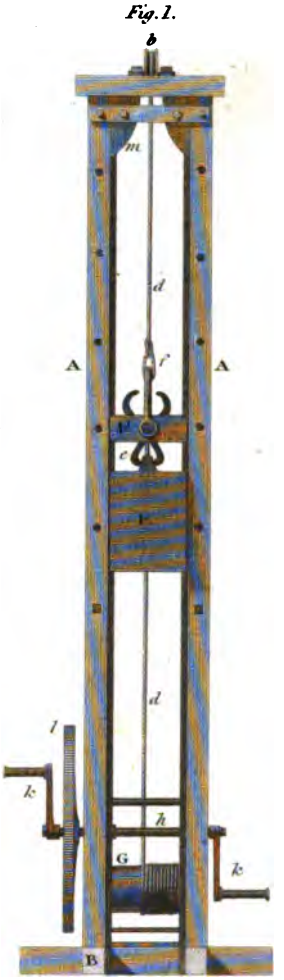


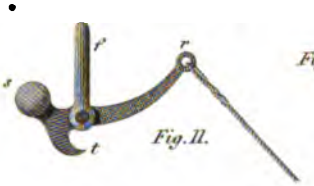
J. Rawle Junr. delin. Published as the Act directs 1824, by Longman, Hurst, Rees, Orme and Brown, Paternoster Row. Engraved by W. Lowry.

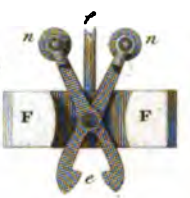
PILE DRIVING MACHINE.

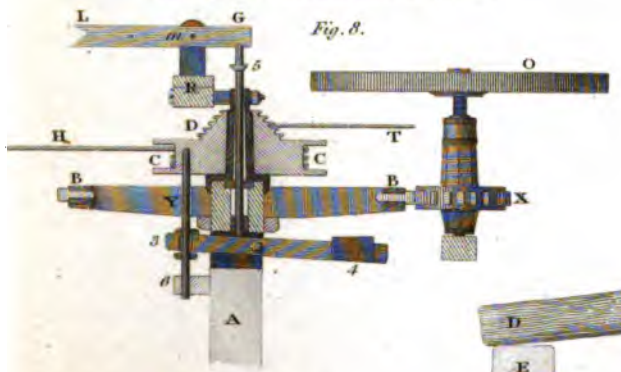




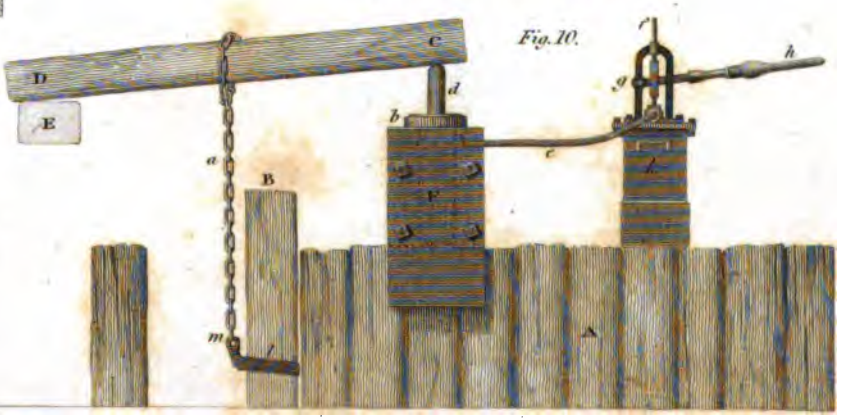








Mr. Bramah's Machine for Drawing Piles out of the Ground.



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MECHANICS.

ROTATION.

Fig. 1.

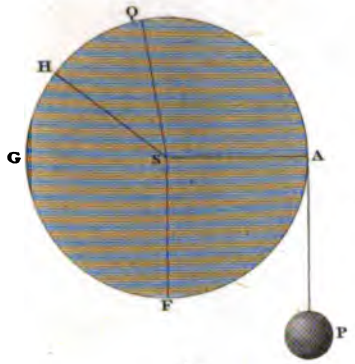


Fig. 2.

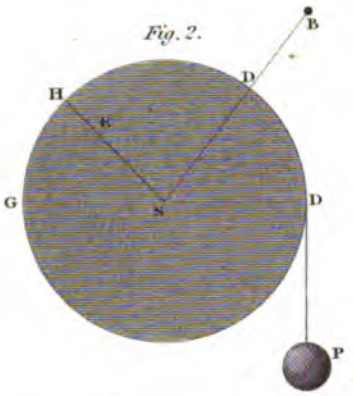
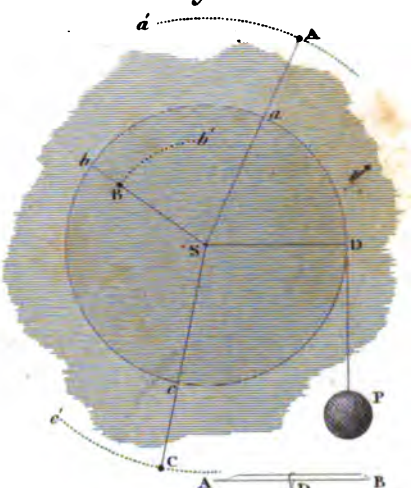


Fig. 3.



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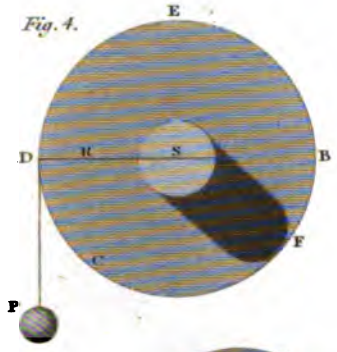
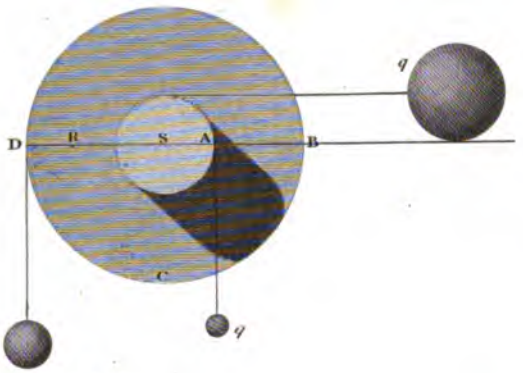


Fig. 5.



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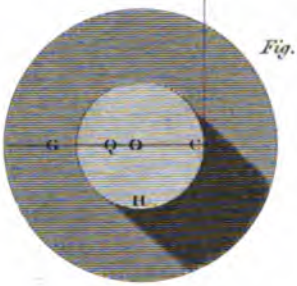
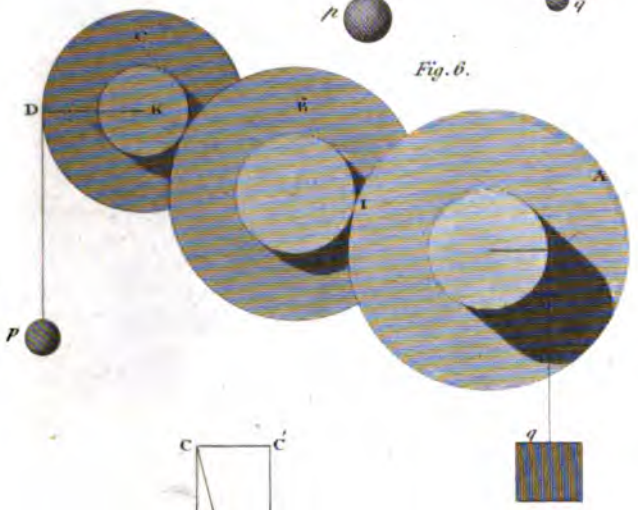


Fig. 6.



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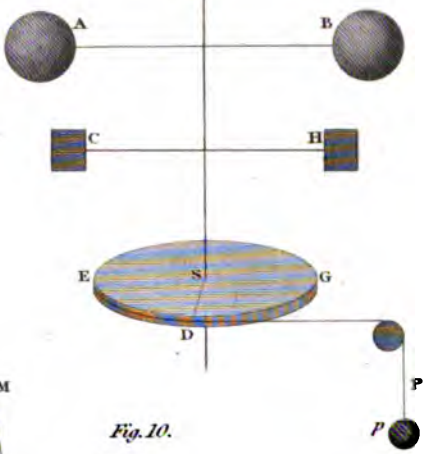

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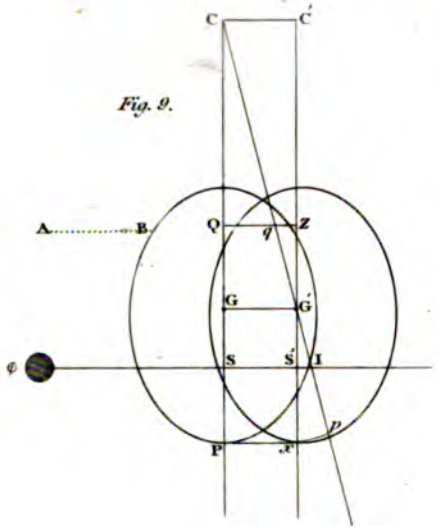

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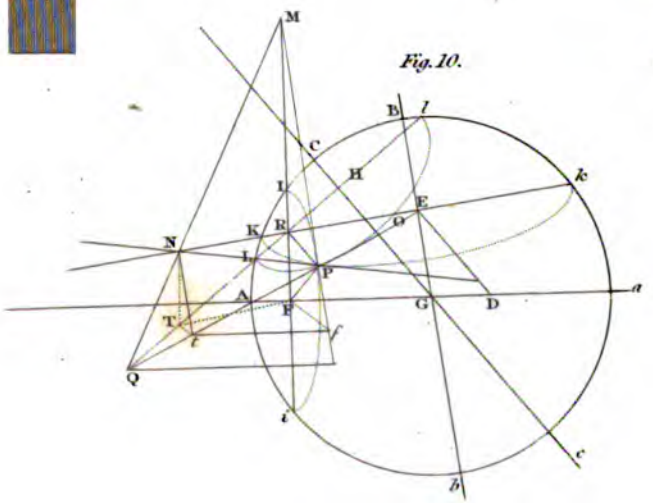

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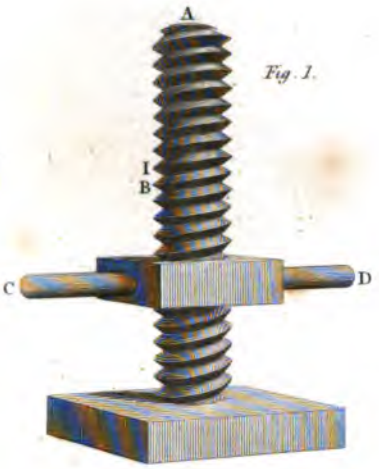


Fig. 1.

Fig. 3.

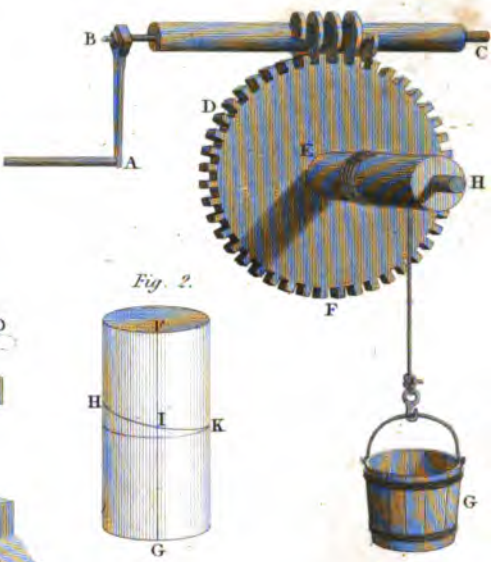


Fig. 4.

Fig. 2.

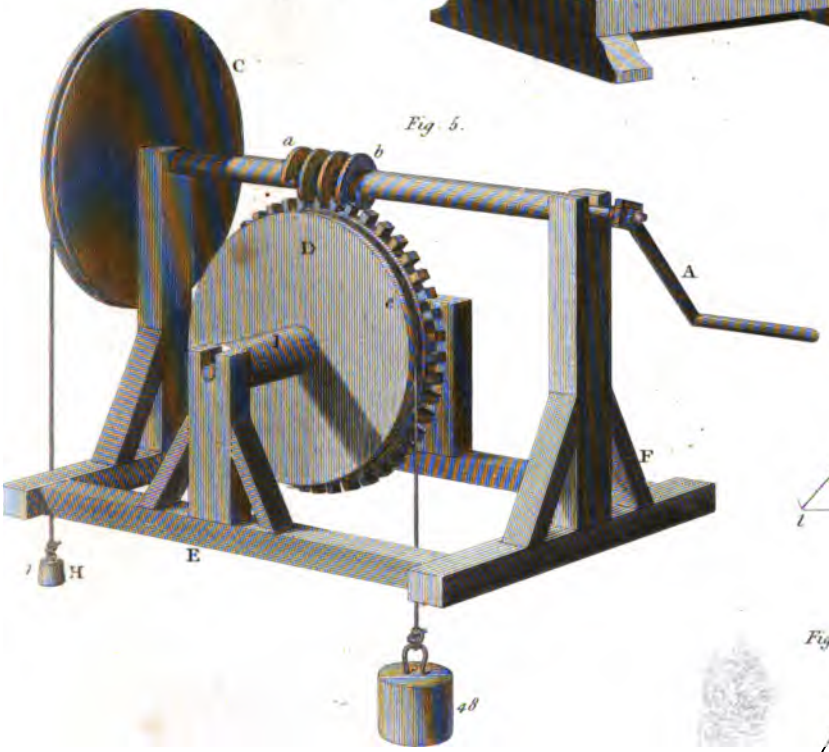
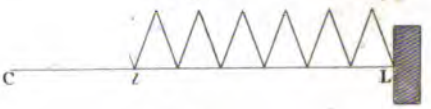


Fig. 5.

SPRING Fig. 6.

Fig. 7.



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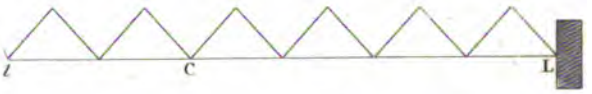


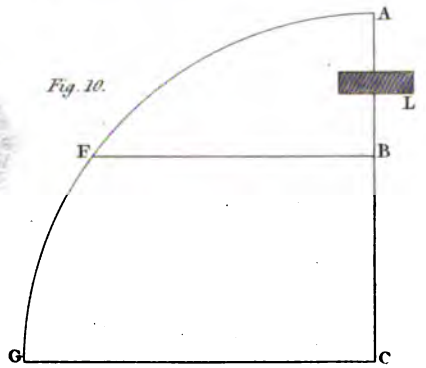
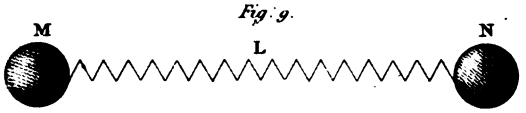


Fig. 10.



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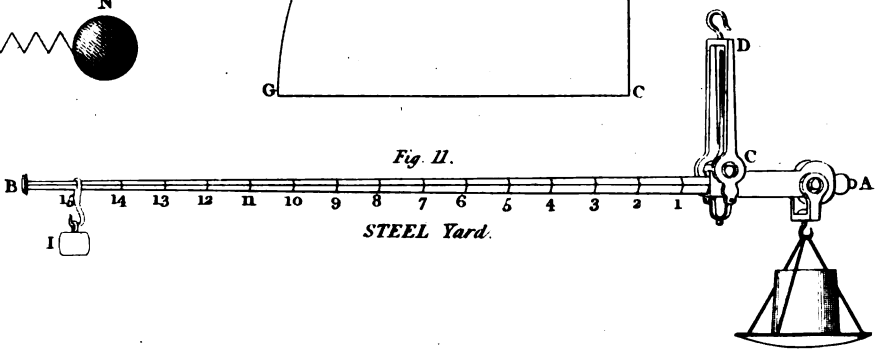

Fig. 11.

STEEL Yard.

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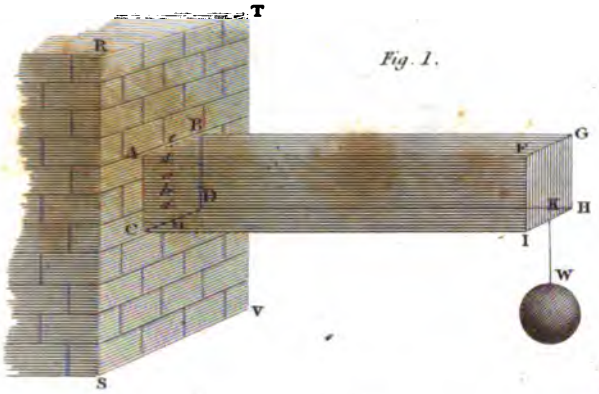
STRENGTH OF MATERIALS.

Fig. 1.



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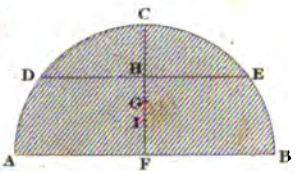

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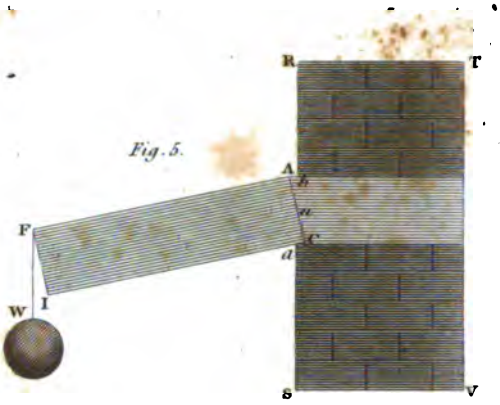

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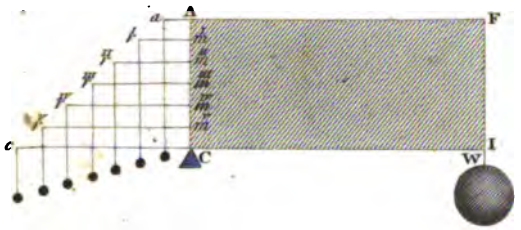

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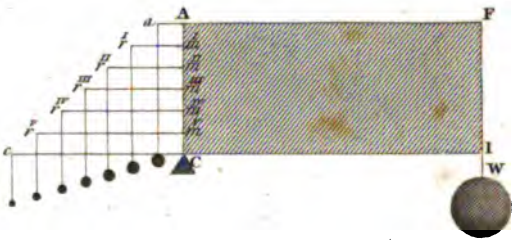

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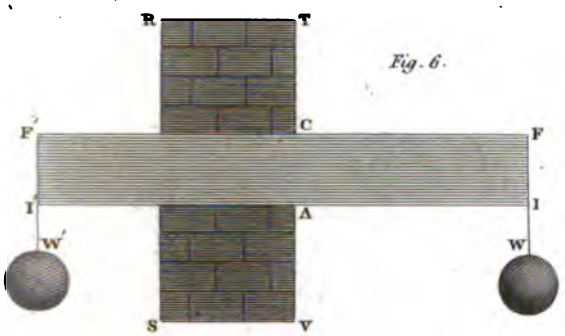
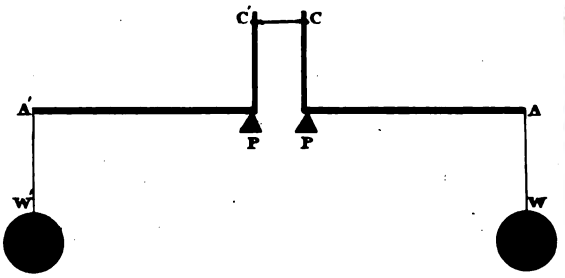


Fig. 7.



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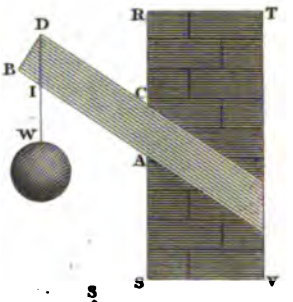


Fig. 8.

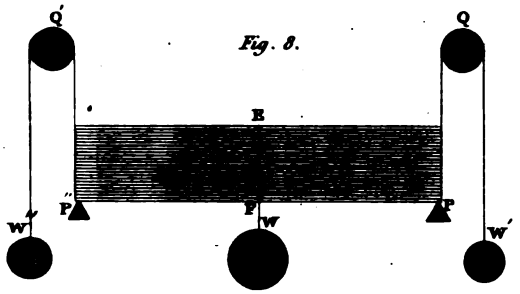


Fig. 9.

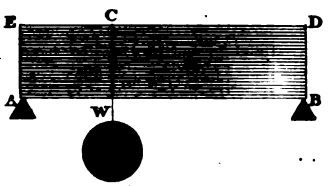
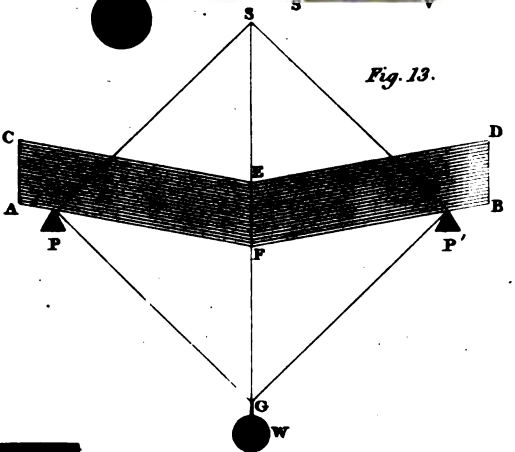


Fig. 13.



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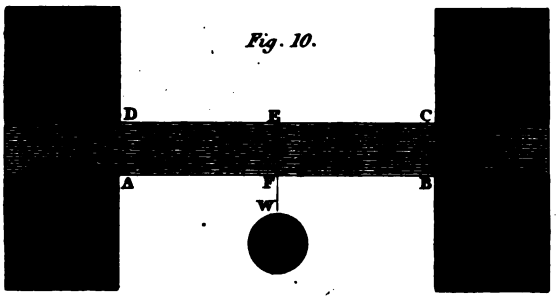

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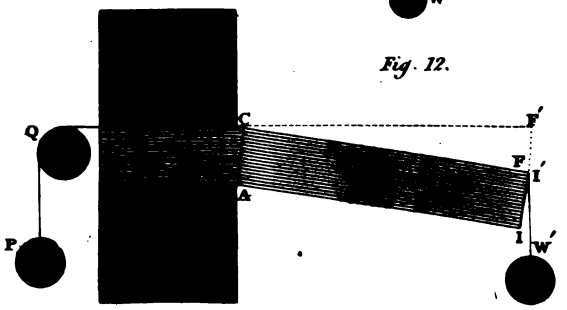

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Lowry Sc.

Machines for casting and Drawing Lead Pipes

Fig. 3.

Fig. 1.

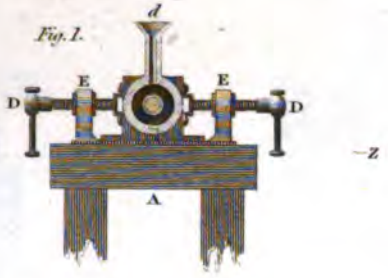


Fig. 2.

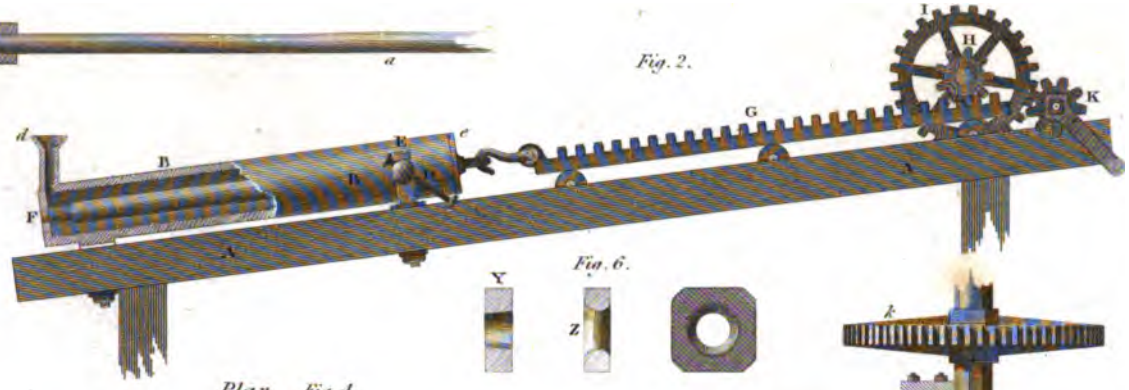
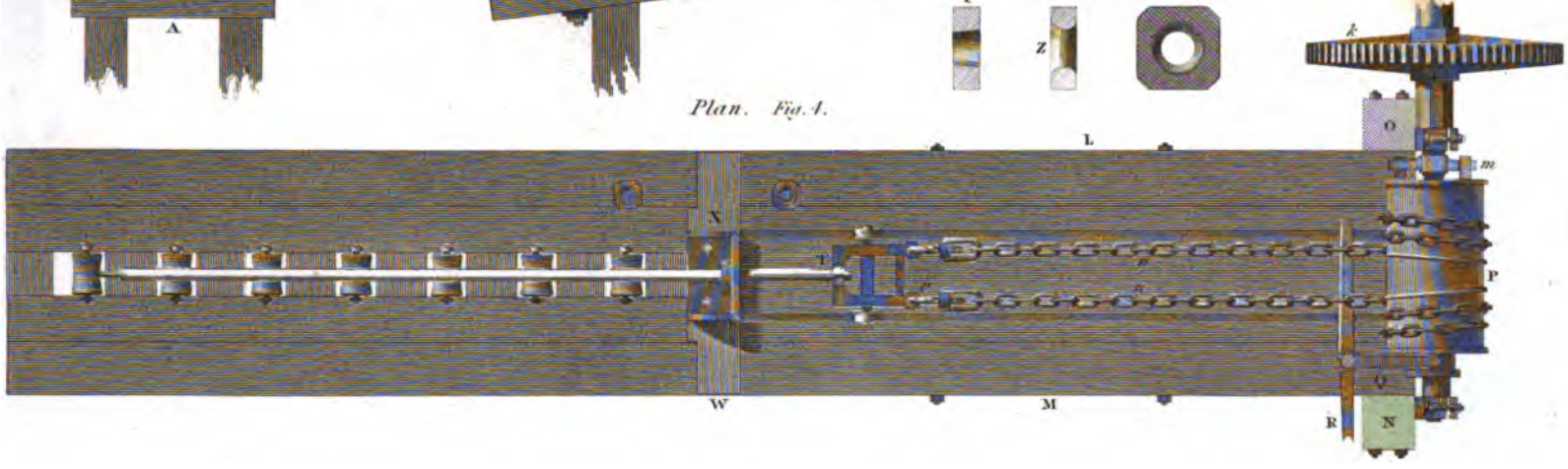
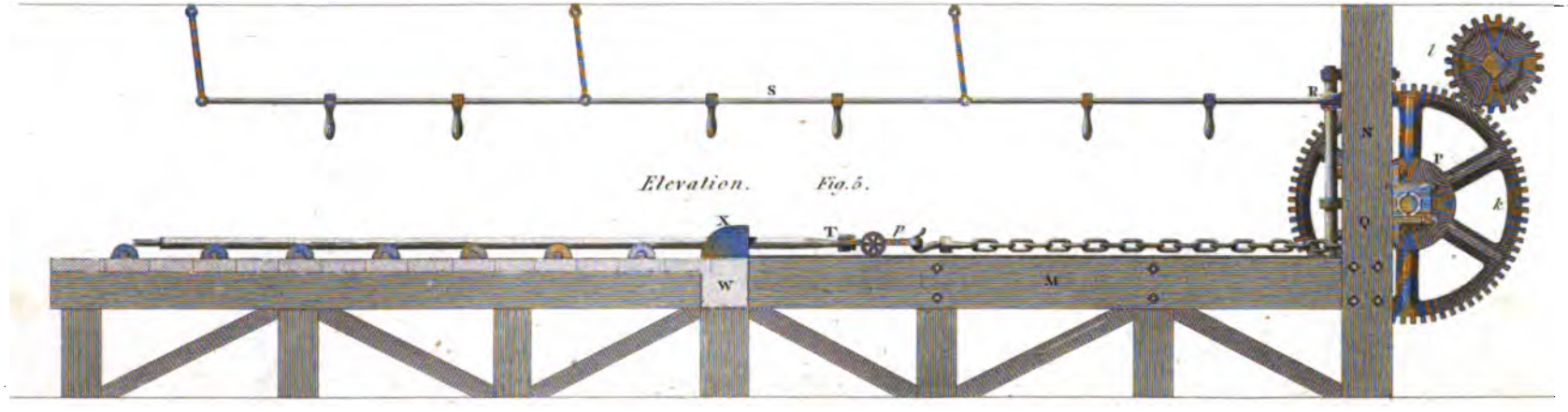


Fig. 6.

Plan. Fig. 4.





Elevation. Fig. 5.

Scale of Feet.

0 1 2 3 4 5 10 15 20

J. Farey del.

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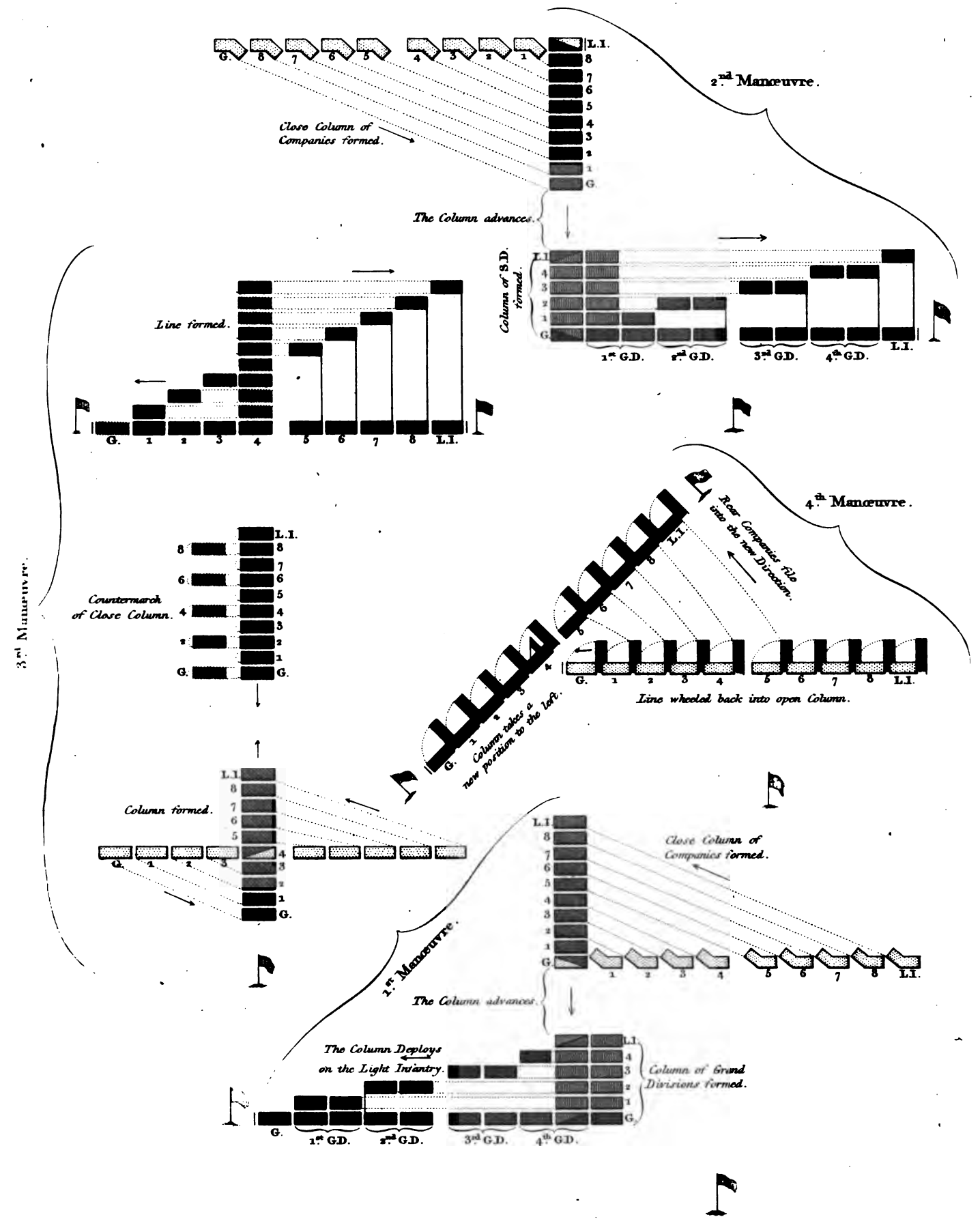
MILITARY MANŒUVRES.



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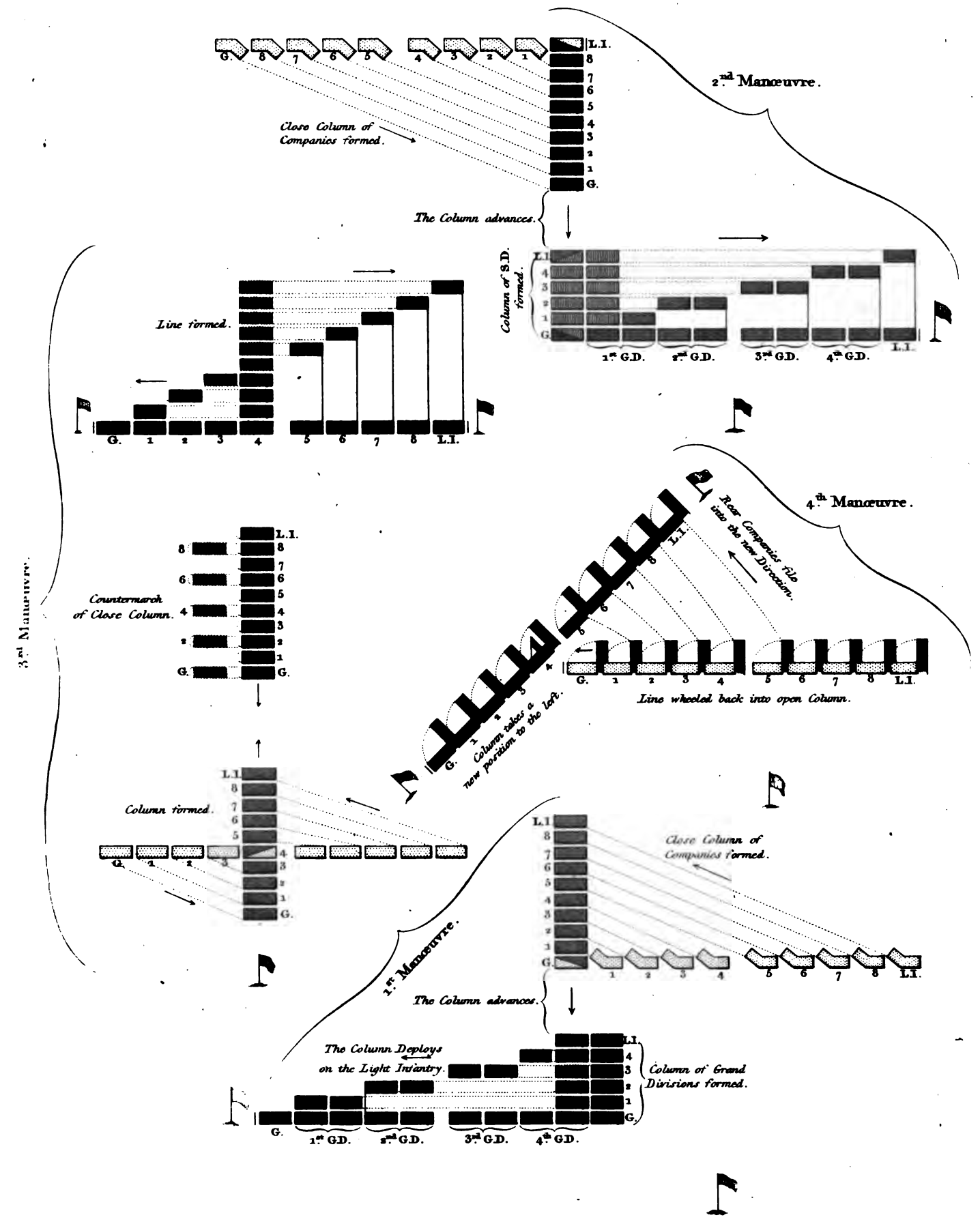
MILITARY MANŒUVRES.



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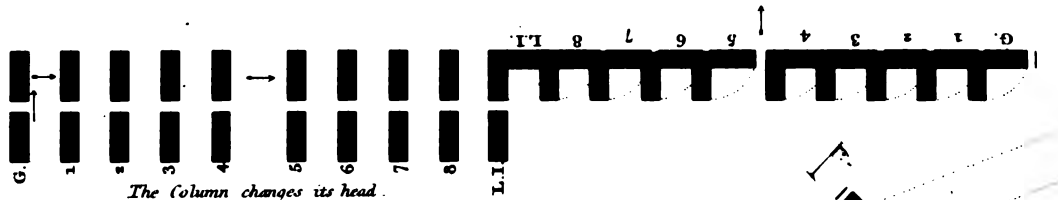
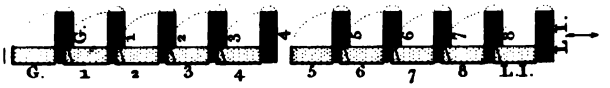
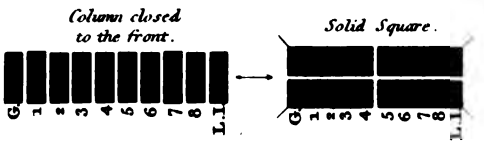
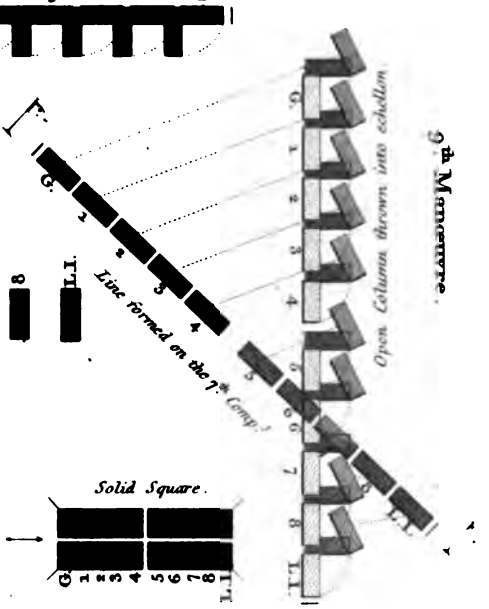
MILITARY MANŒUVRES.

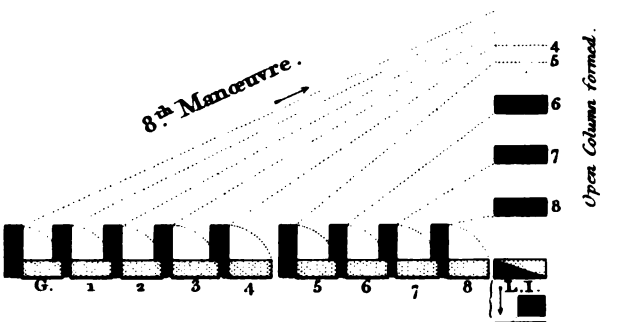
6th Manœuvre.



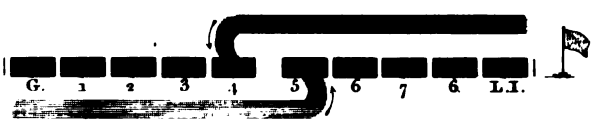


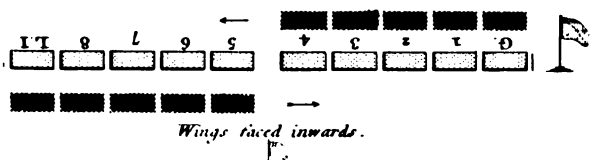




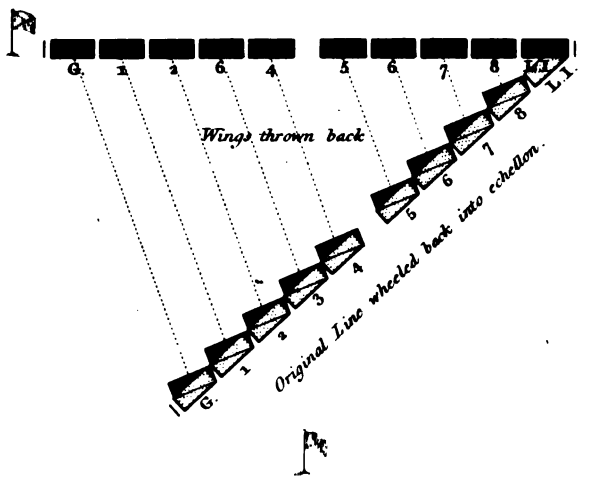


7th Manœuvre.





5th Manœuvre.



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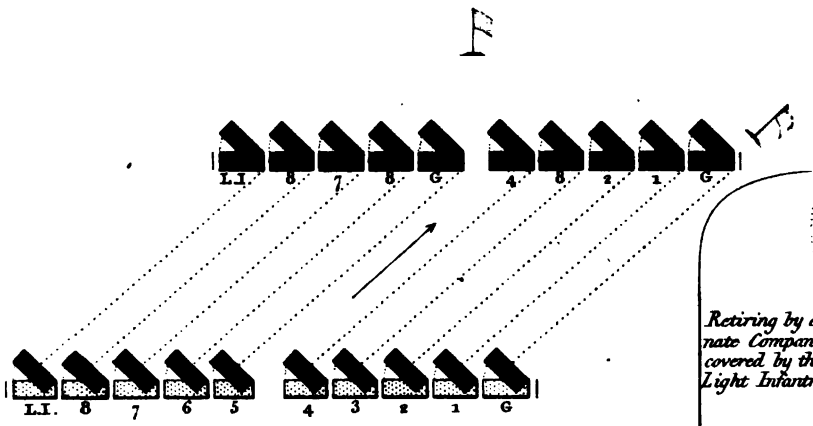
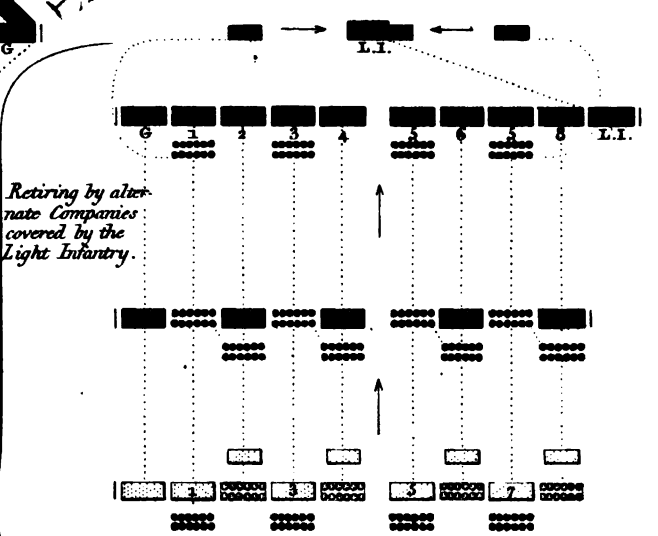
MILITARY MANŒUVRES.

13th. Manœuvre.

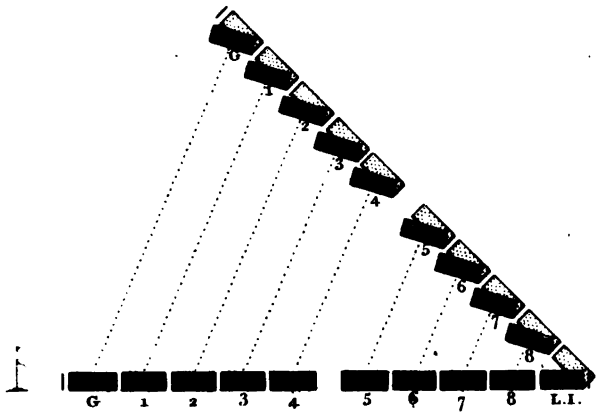


12th. Manœuvre.

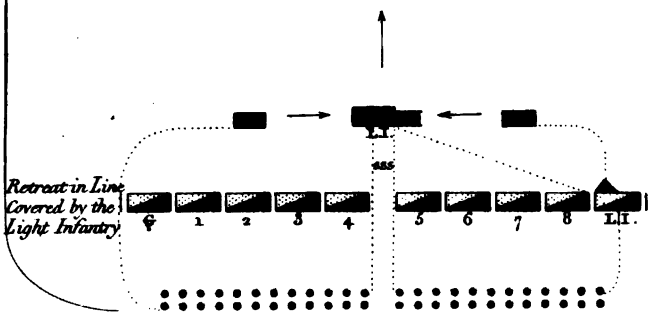


Retiring by alternate Companies covered by the Light Infantry.

10th. Manœuvre.

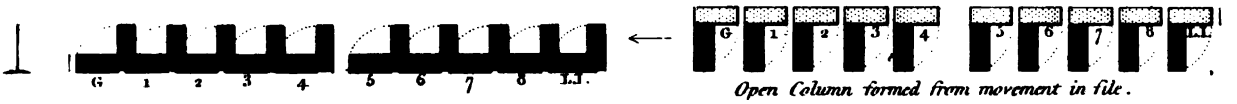


Line formed on the Light Infantry.



Retreat in Line Covered by the Light Infantry

11th. Manœuvre.



Open Column formed from movement in file.

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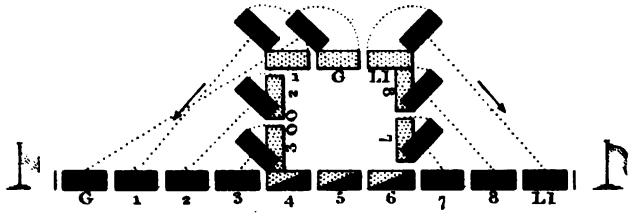
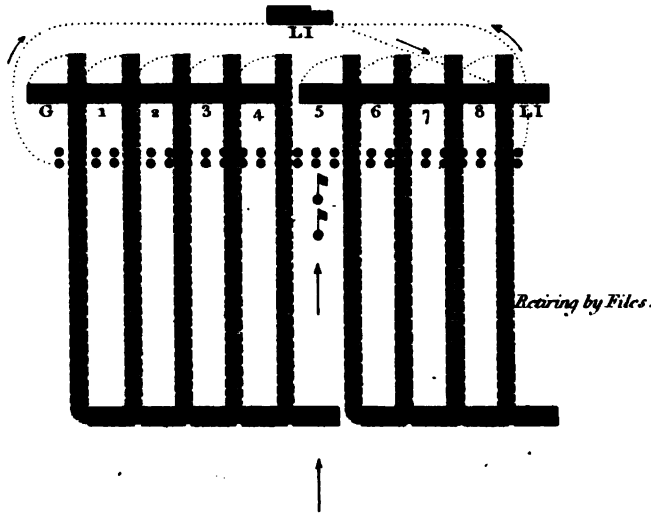
MILITARY MANŒUVRES.

14th. Manœuvre.



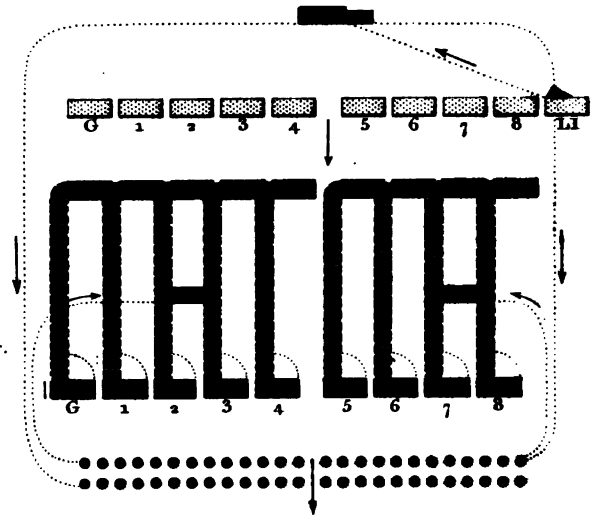
Line formed from the Hollow Square.

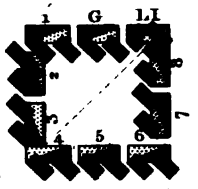
15th. Manœuvre.



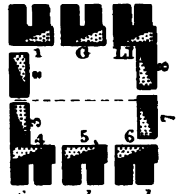
Retiring by Files.

16th. Manœuvre.



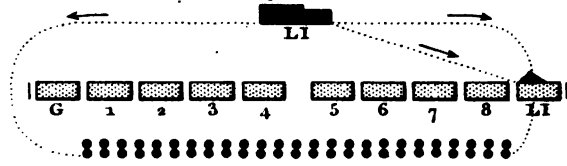


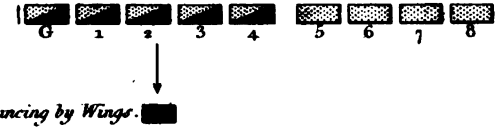
Square advances by its right front Angle.



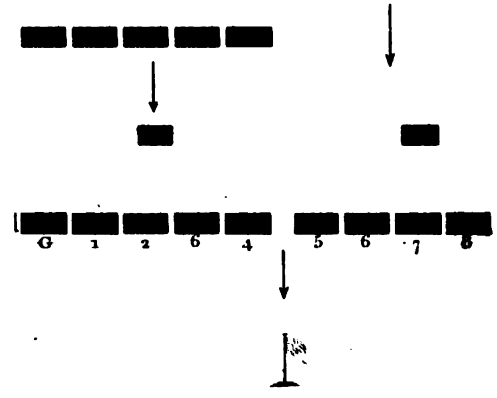
Square advances by its right Face.

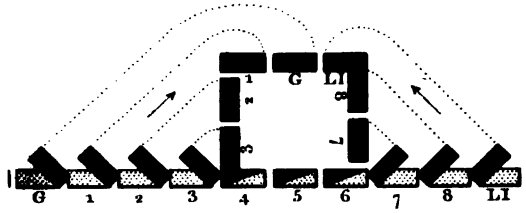
Retiring in Line.





Advancing by Wings.





Hollow Square formed.

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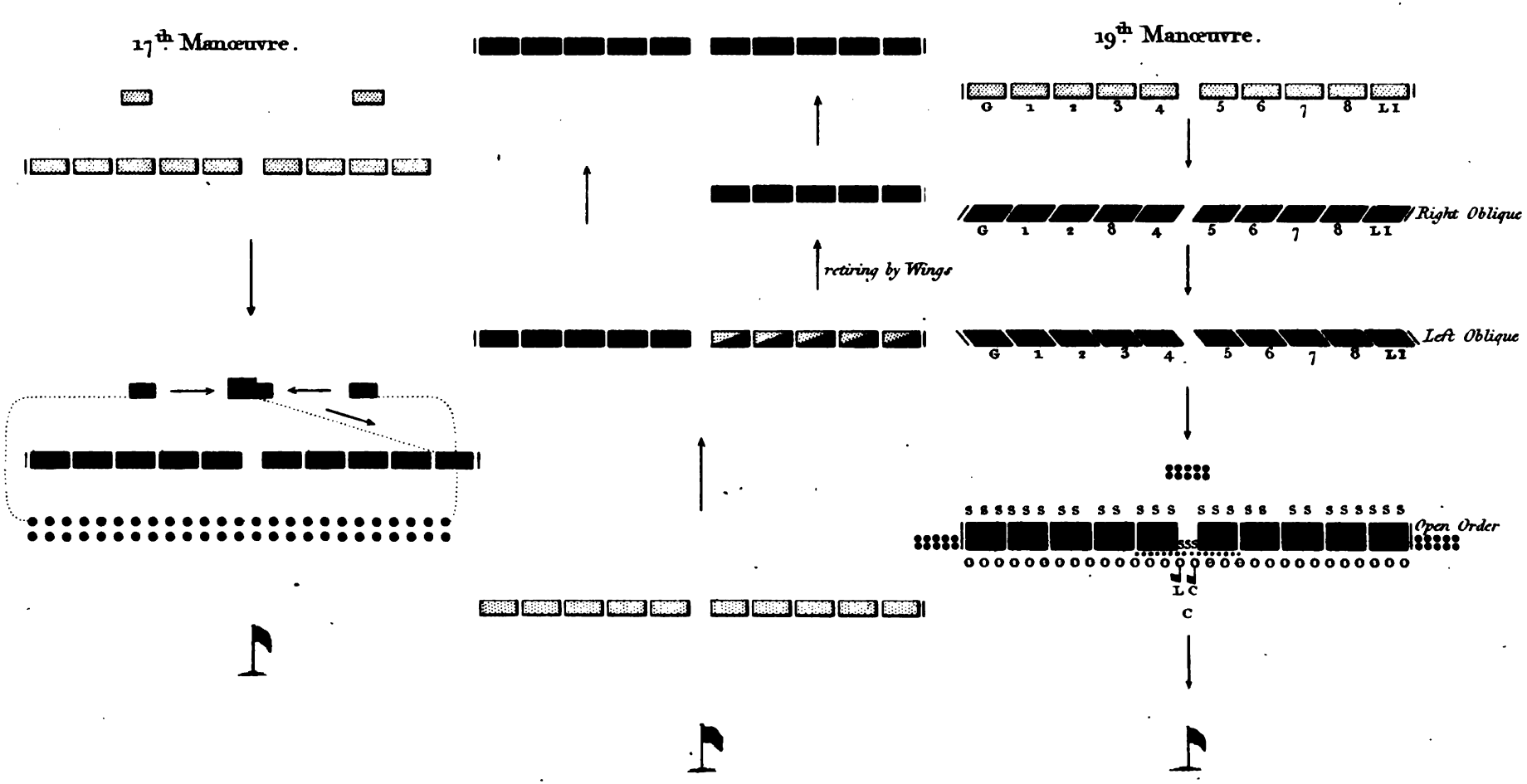
MILITARY MANŒUVRES.



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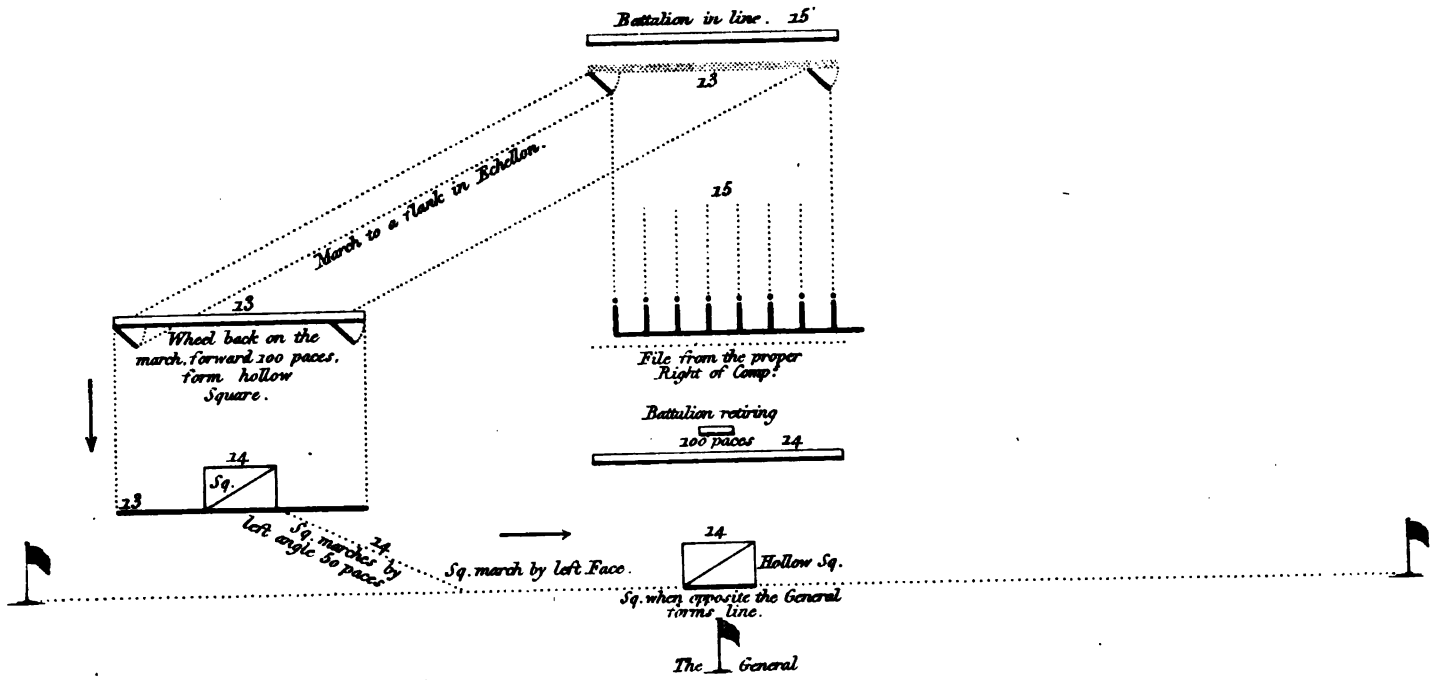
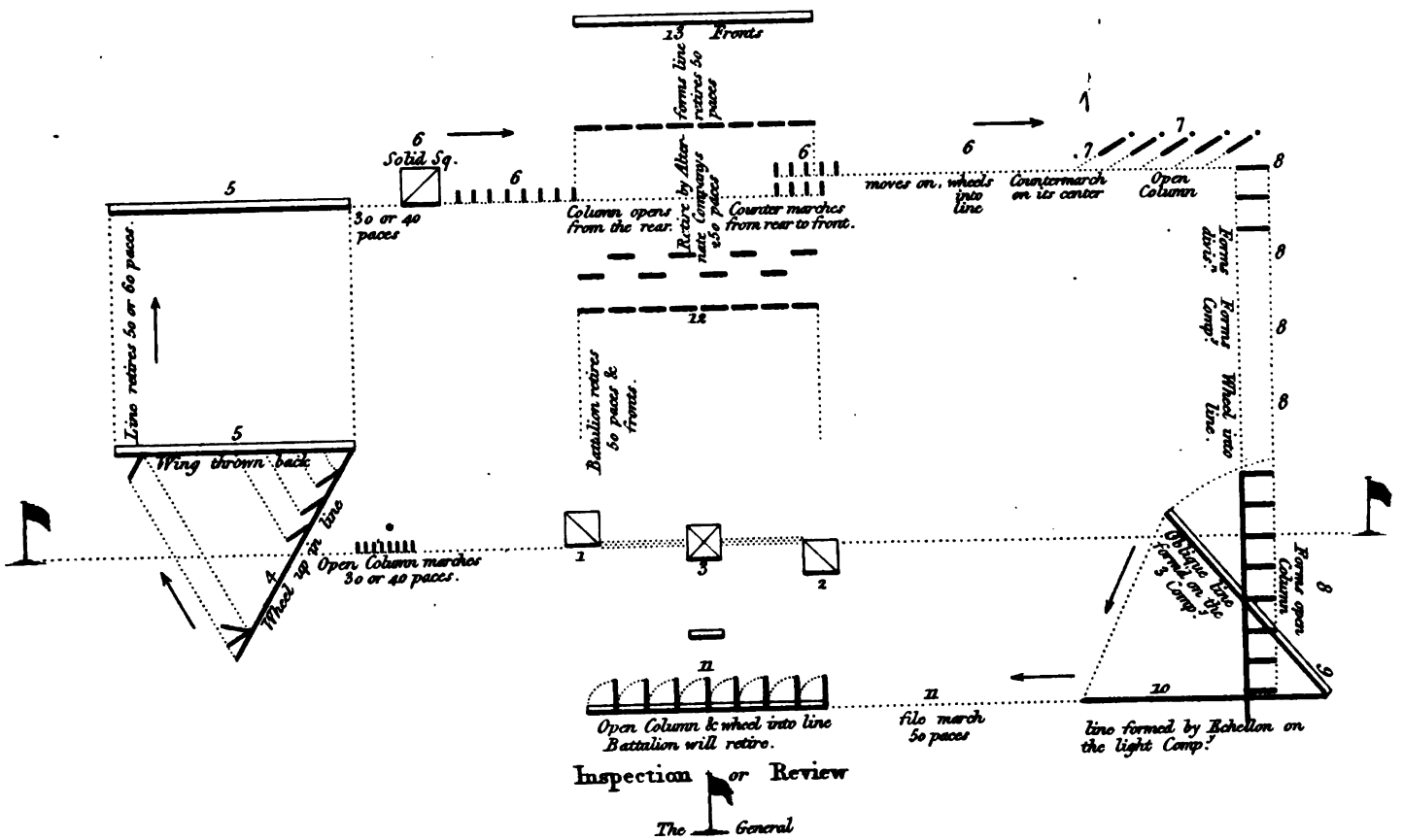
MILITARY MANŒUVRES.



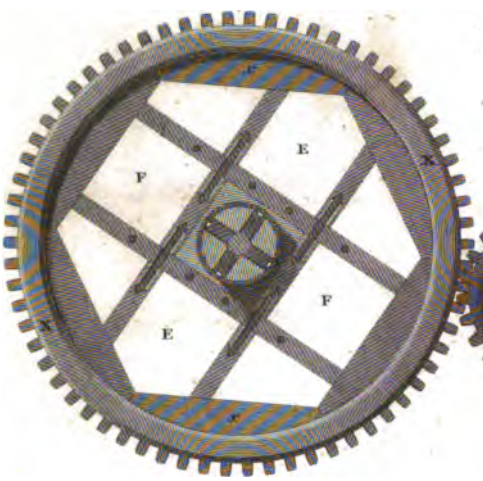


Published as the Act directs, Feb.y 2. 1806, by Longman, Hurst, Rees & Orme, Paternoster Row.

Engraved by Wilson Lowry

MILL=WORK

Fig. 1.



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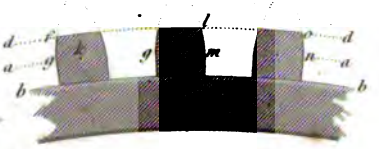


Fig. 3.

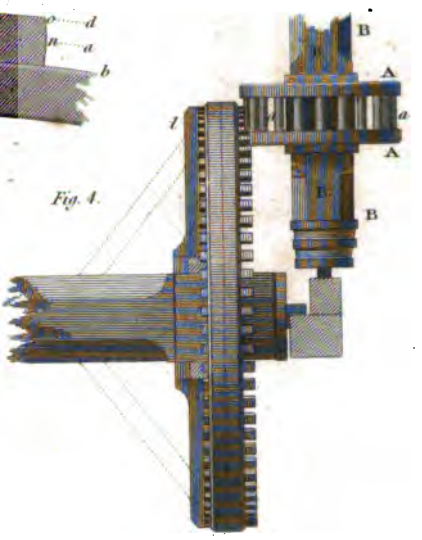


Fig. 4.

Bevilled Wheels.

Fig. 5.

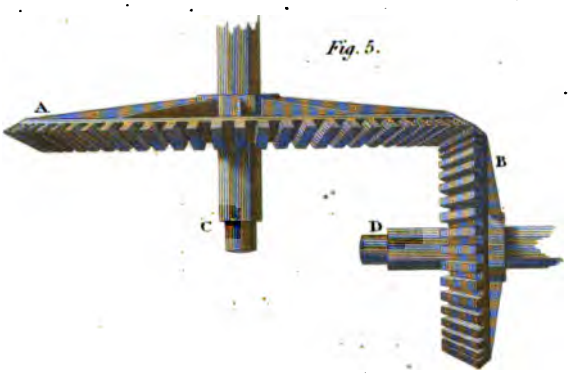
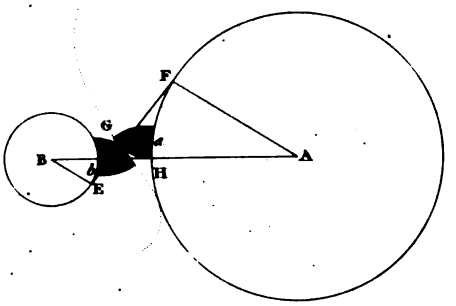


Fig. 6.



Conical Wheels.

Fig. 7.

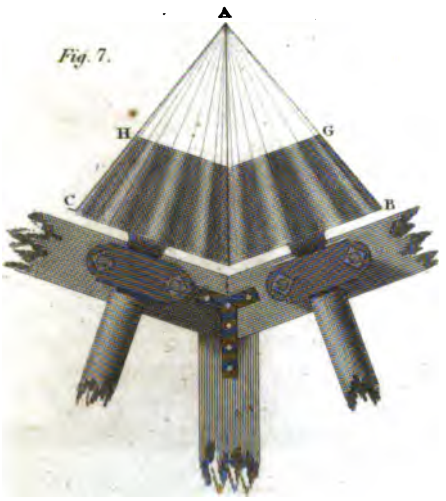
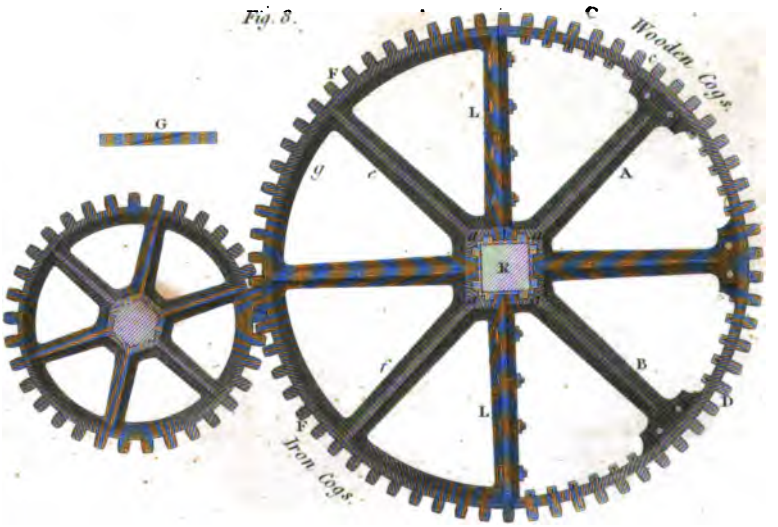


Fig. 8.



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MILL WORK.

Fig. 11.

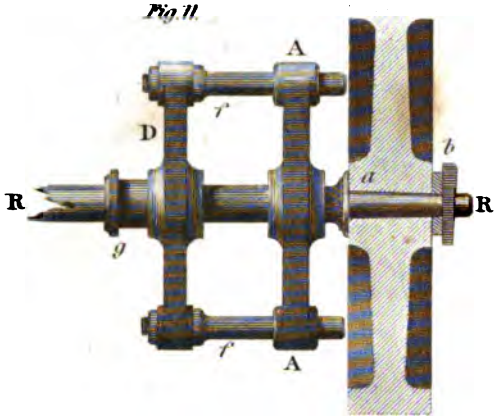


Fig. 10.

Fig. 9.

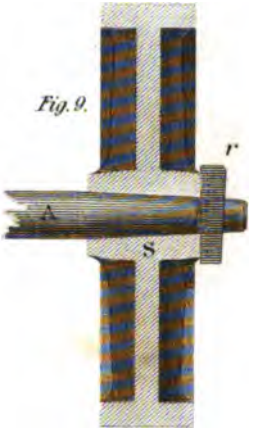
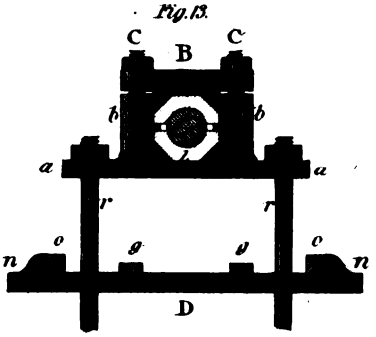


Fig. 13.



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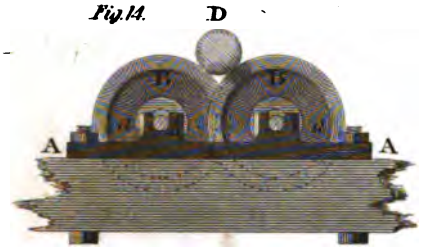
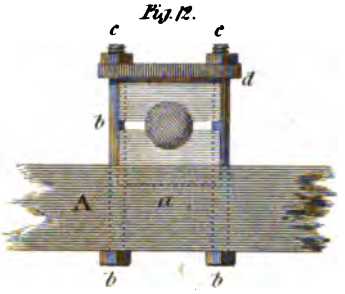
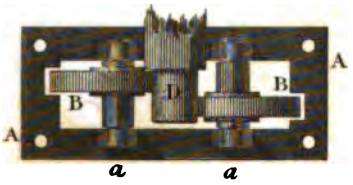


Fig. 12.





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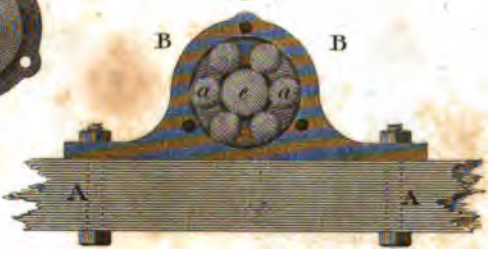


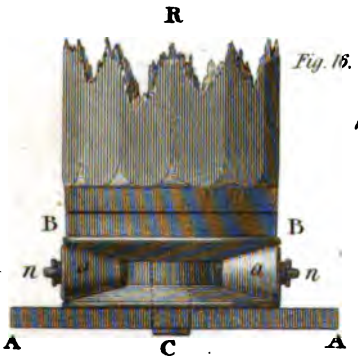
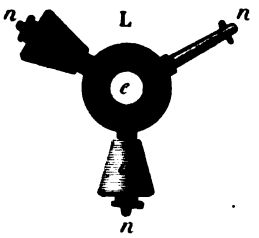


Fig. 16.



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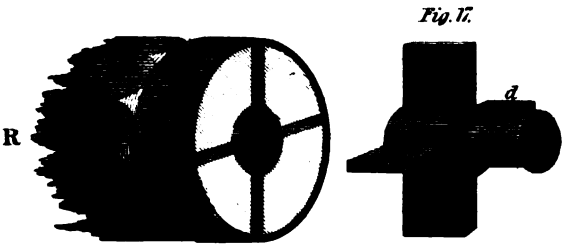

J. Farey del.

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MILL WORK.

PLATE III.

Fig. 21.

Nº 1.

Fig. 19.

Nº 2.

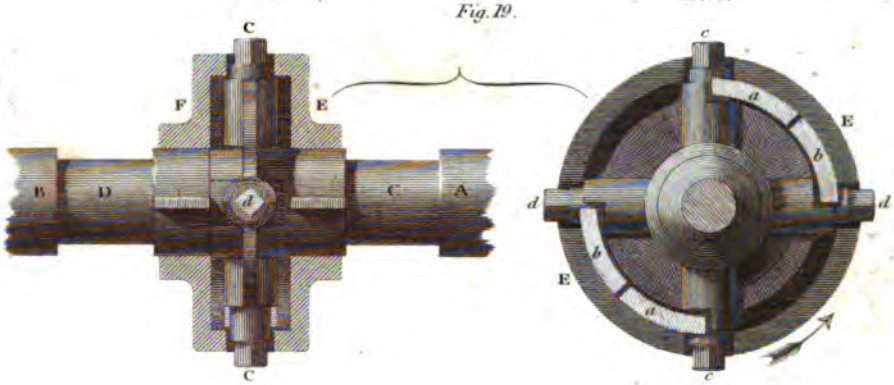
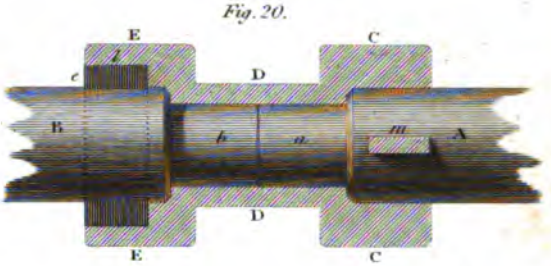


Fig. 18.

Fig. 20.



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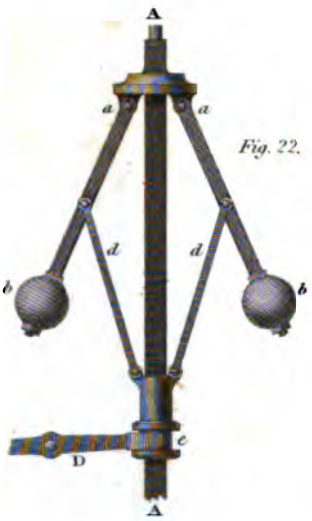


Fig. 23.

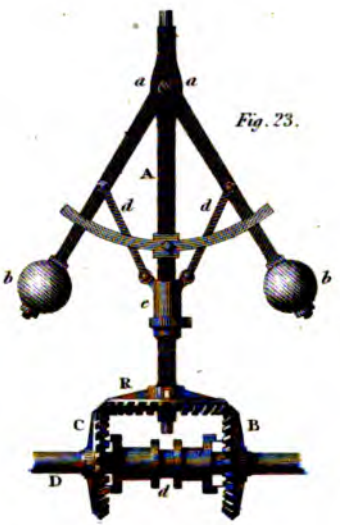


Fig. 26.

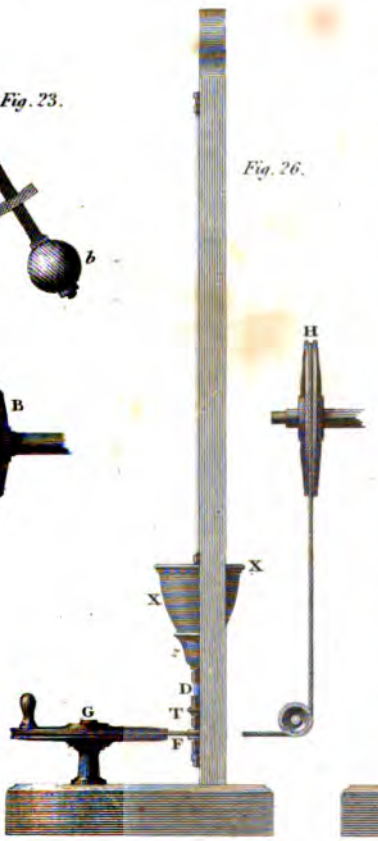
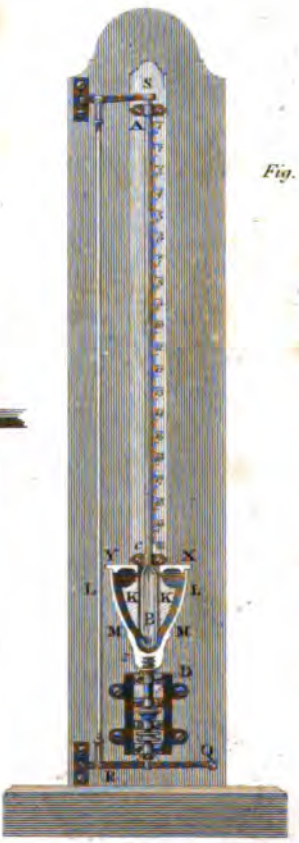


Fig. 25.



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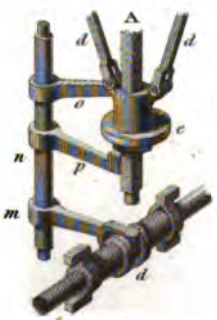

Fig. 27.

J. Farey del.

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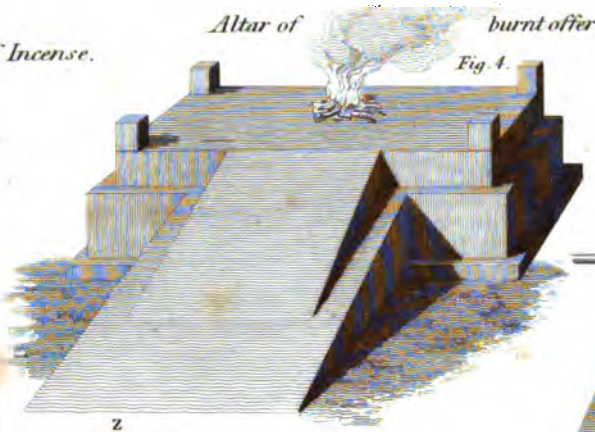
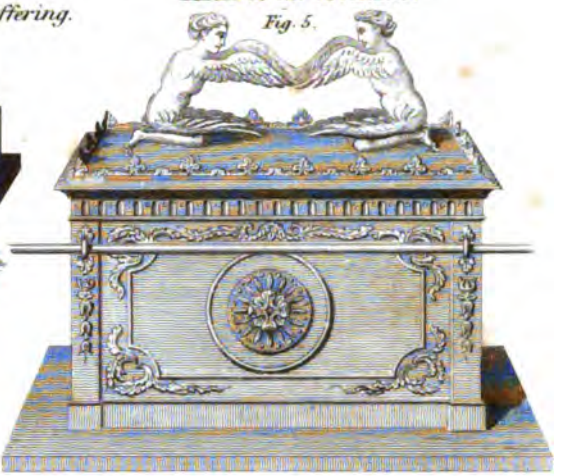
Lowry sculp.

Fig. 3. Altar of Incense.

Altar of burnt offering. Fig. 4.



ARK of the Covenant. Fig. 5.



Chinese Musical Instruments.

CHING

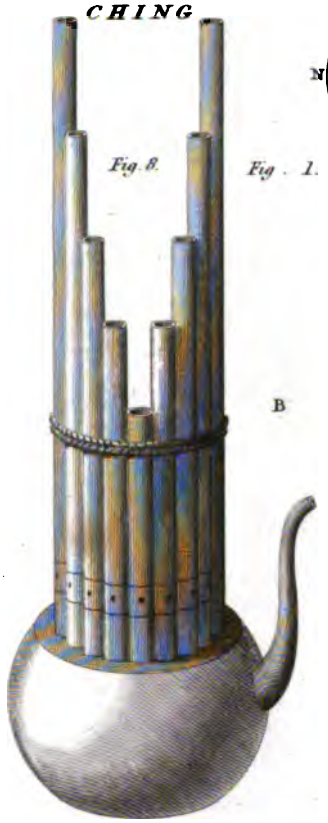
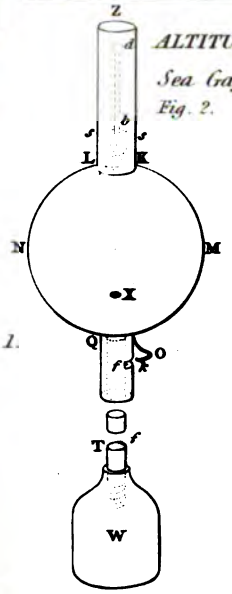


Fig. 8.

Fig. 1.



ALTITUDE of the Sea.

Sea Gage

Fig. 2.

NEPER'S Bones. Fig. 6.

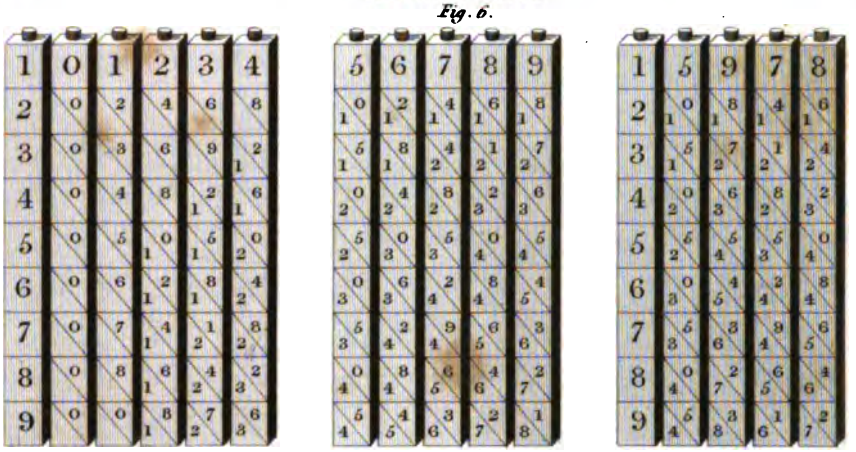
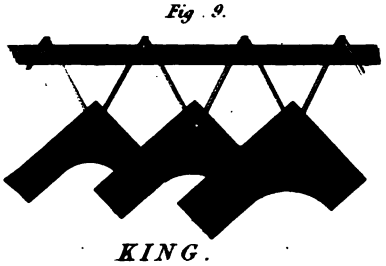


Fig. 7.

ANCIENT ARITHMETICAL CHARACTERS.

Notes of Boethius.	I	☊	☊☊	☊☊☊	Γ	L	Λ	8	9	
Characters of Planudes.	ı	μ	ω	ς	ʃ	ɣ	ν	∧	ϙ	10
Characters of Al Sephadi.	ı	μ	ω	ς	ʁ	ɣ	ν	∧	ϙ	ı,
Characters of Sacro Bosco.	ı	☊	3	ɾ	Γ	6	∧	8	9	10
Indian Characters.	ϙ	ƨ	ε	ɣ	y	3	9	ƨ	ϙ	ϙ
Characters of Roger Bacon.	ı	ℸ	3	ɾ	Γ	6	∧	8	9	10
Modern Figures	1	2	3	4	5	6	7	8	9	10
A Number expressed by Al Sephadi.	ı ∧	ς	ς	ɣ	ν	ς	ς ,	ν	ω	ν ,	ϙ	ʁ	ʁ ,	ϙ	ʁ
The same in the Modern Notation.	1	8	4	4	6	7	4	4	0	7	3	7	0	9	5	5	1	6	1	5

Fig. 9.



KING.

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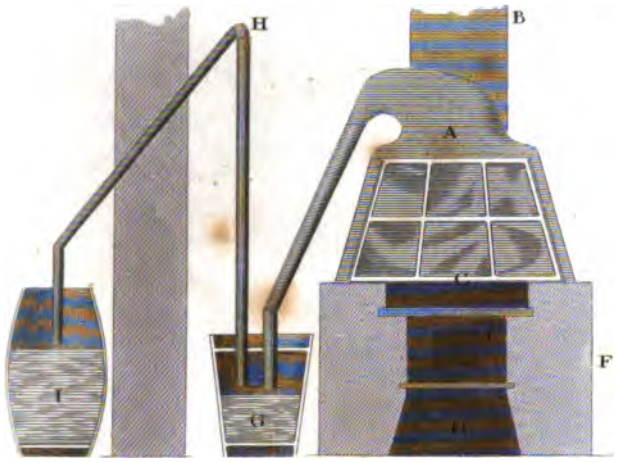
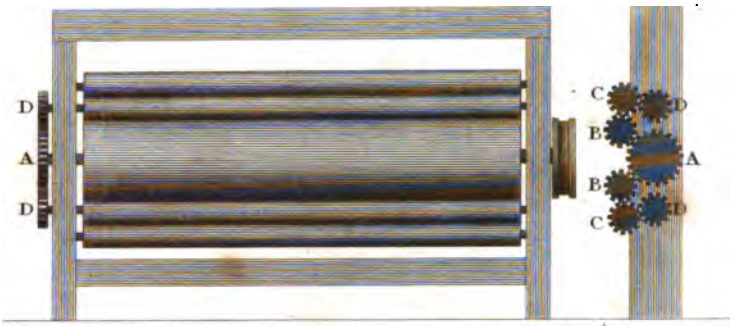
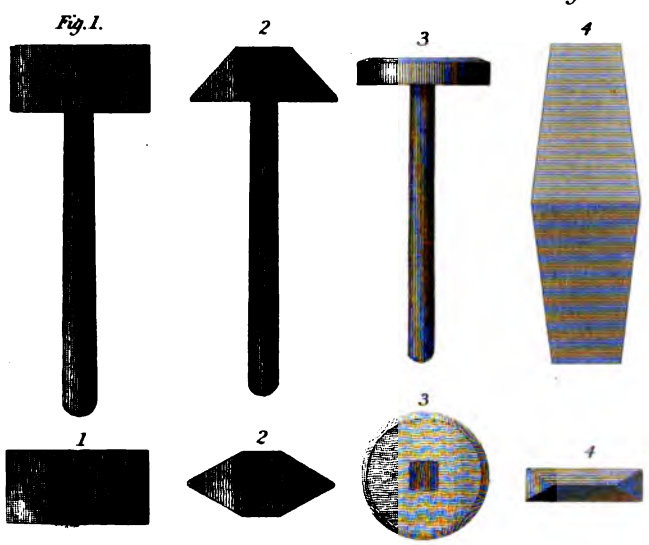
BUTTON Making

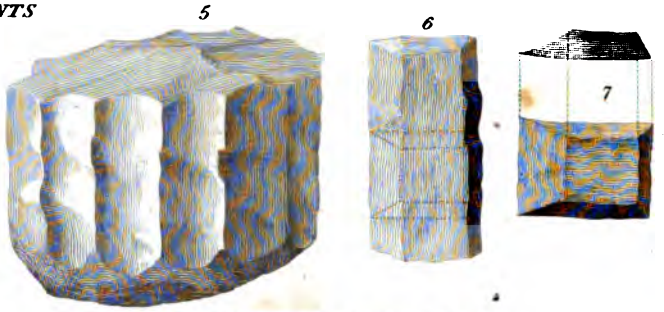


GLAZING Cloth

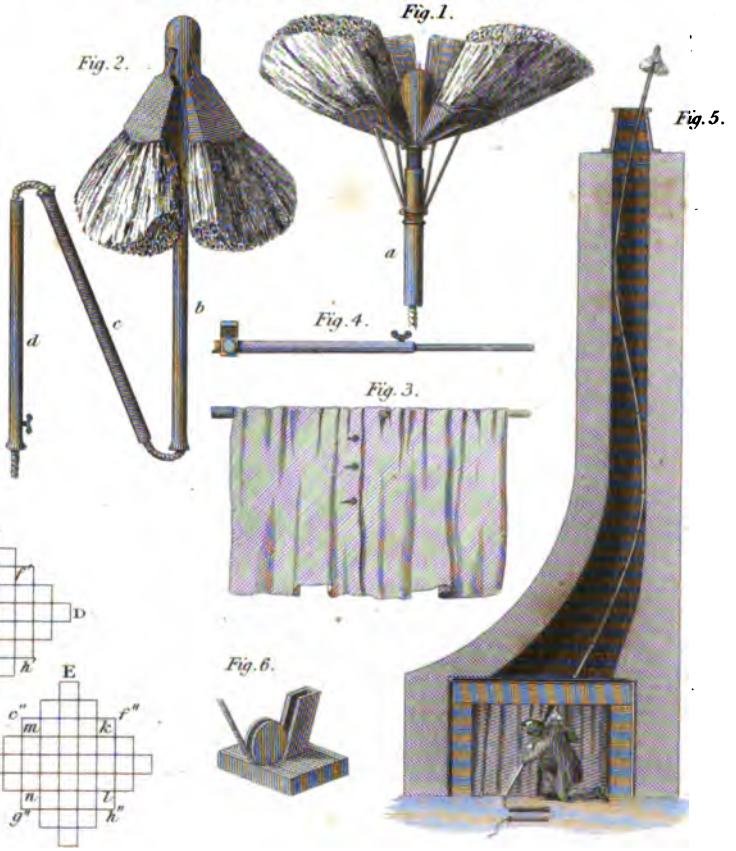


Tools for cutting GUN FLINTS

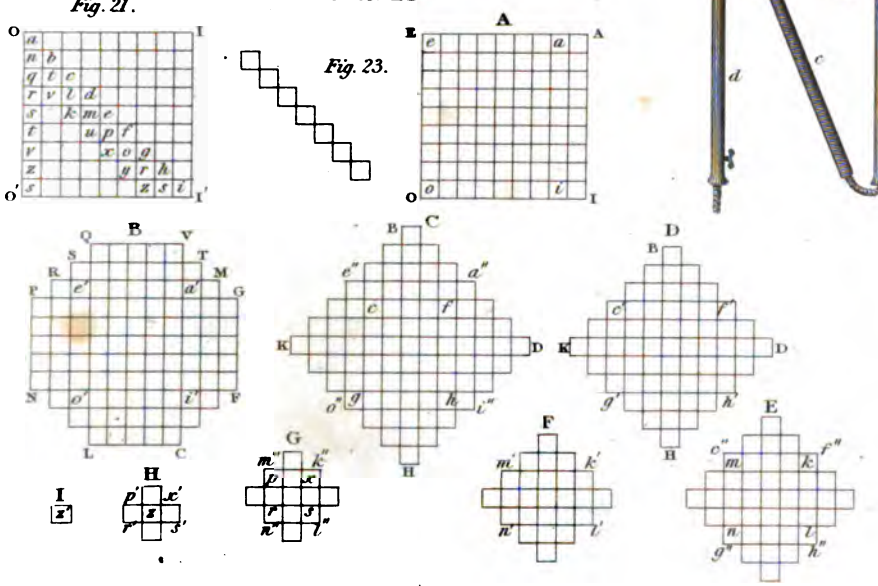




Smarts CHIMNEY CLEANSING Machine



CRYSTALLOGRAPHY



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Lowry sculp.

MISCELLANY.

PLATE COINAGE.

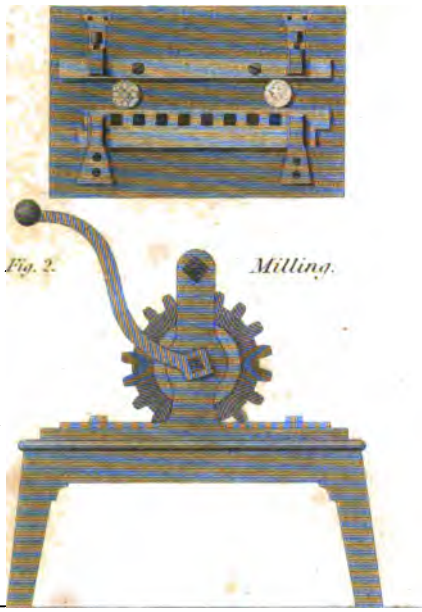
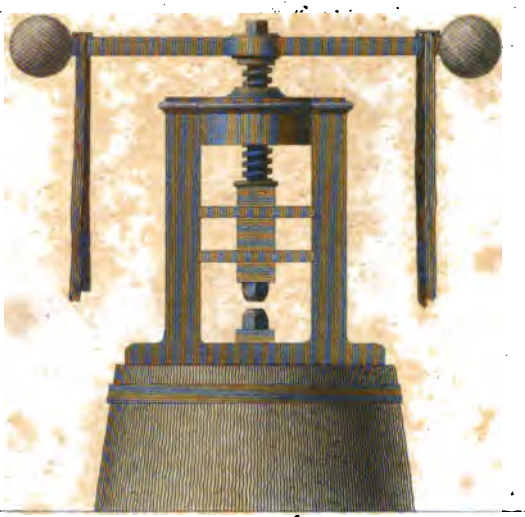


Fig. 2. Milling.

Fig. 4.

Fig. 3.

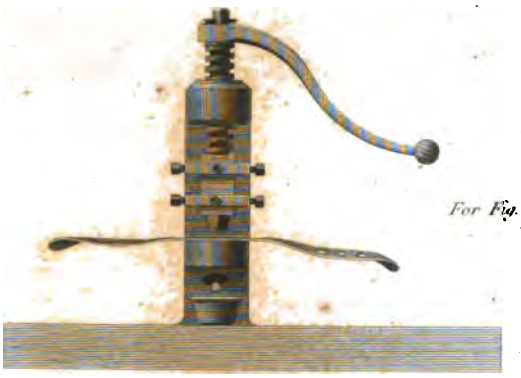


MISCELLANY.

PLATE III.

COPYING.

Fig. 1. Coinage.



For Fig. 4. see the next Plate.

Fig. 3.

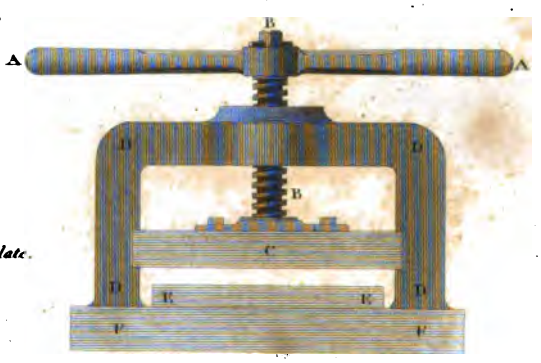


Fig. 1.

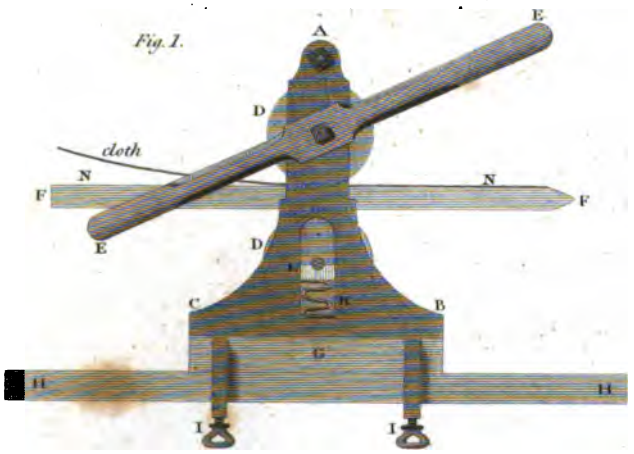
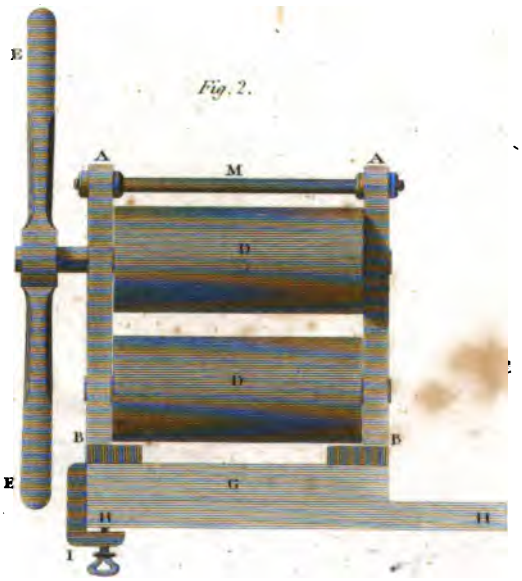


Fig. 2.



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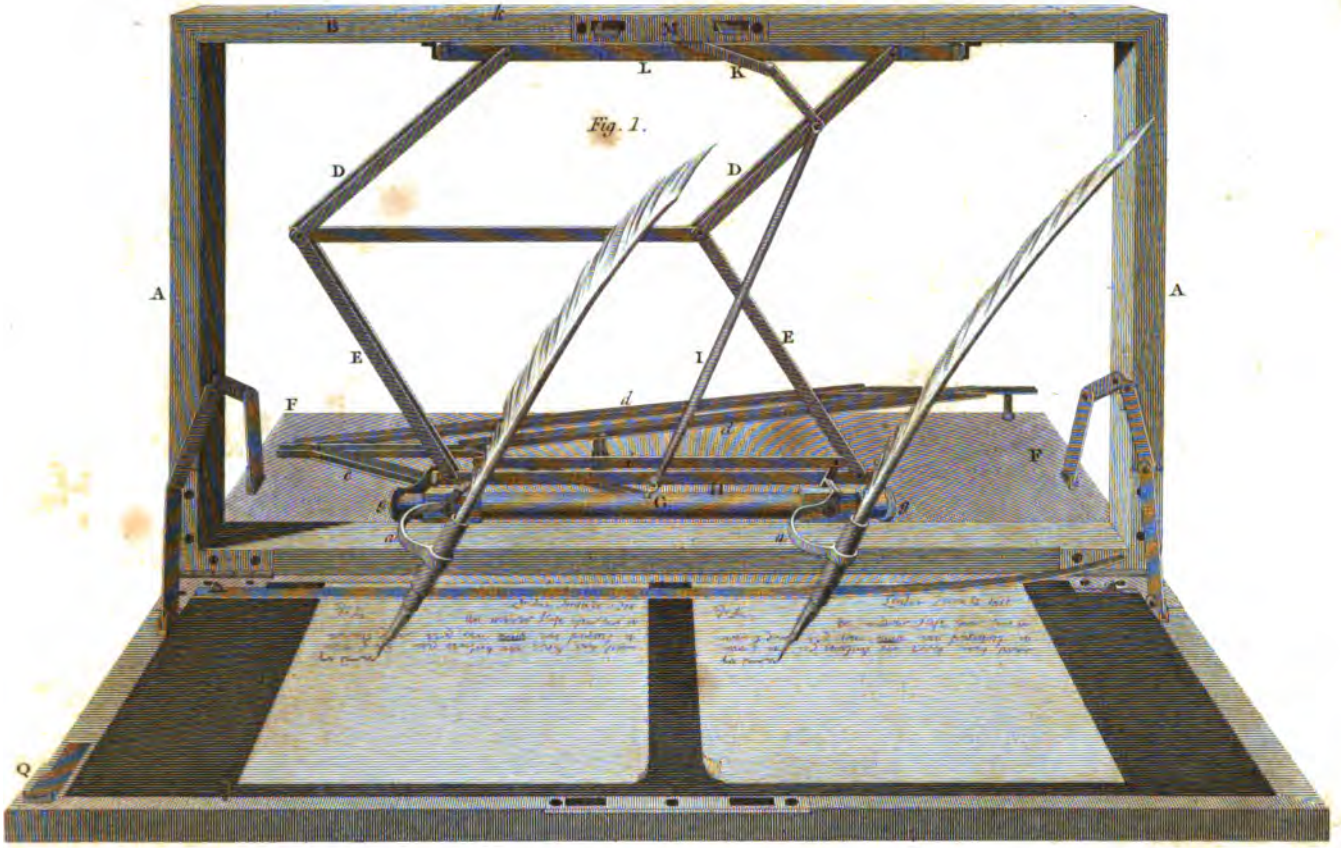
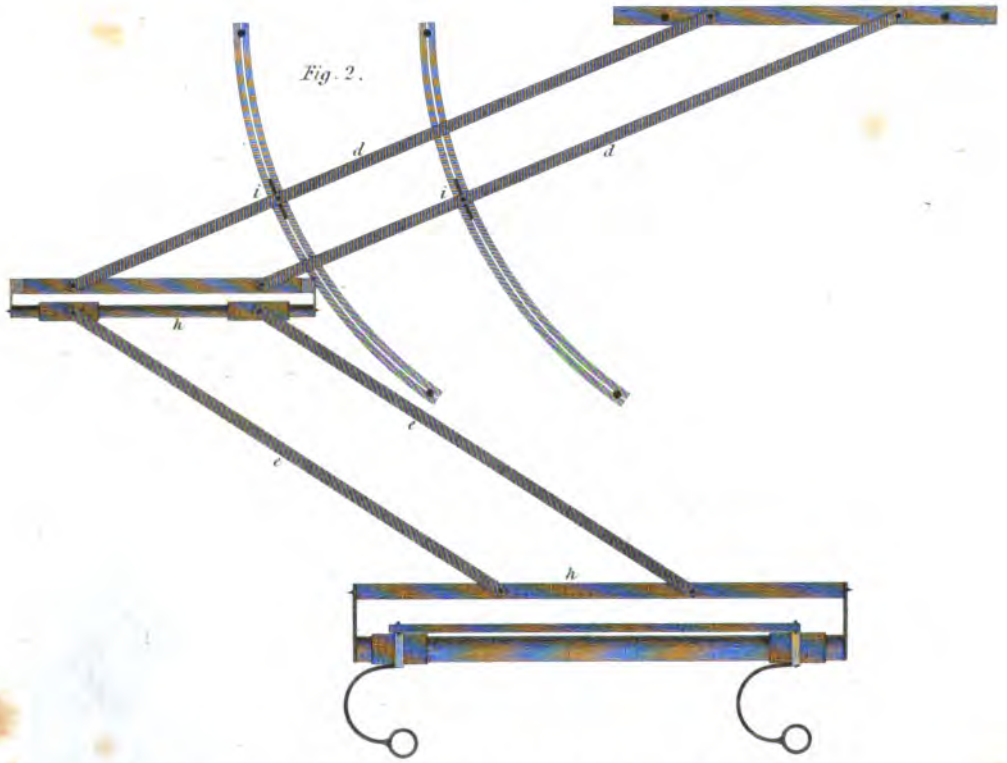
Hawkins's patent Polygraph.





Farey Junr. delin.

Published as the Act directs by Longman, Hurst, Rees, Orme & Brown, Paternoster Row.

Engraved by Wilson Lowry.

DESIGNS FOR WEAVING.

Fig. 7.
Similar Spots

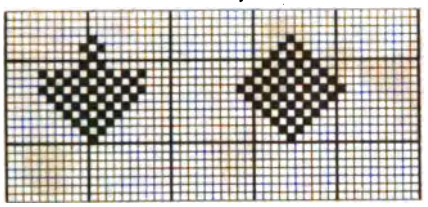


Fig. 8.
Difsimilar Spots

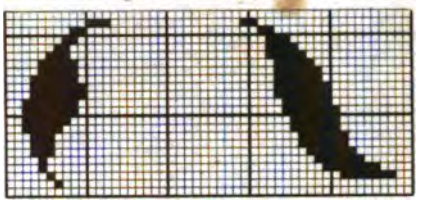


Fig. 9.
Dornock

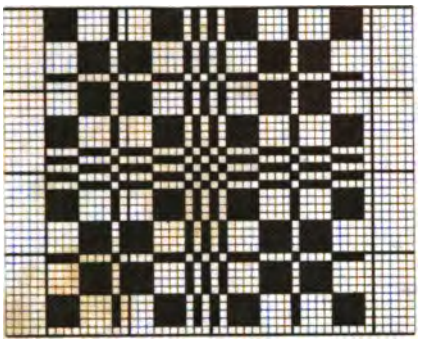


Fig. 10.
Dimity

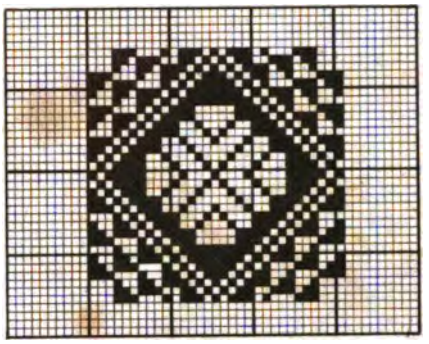
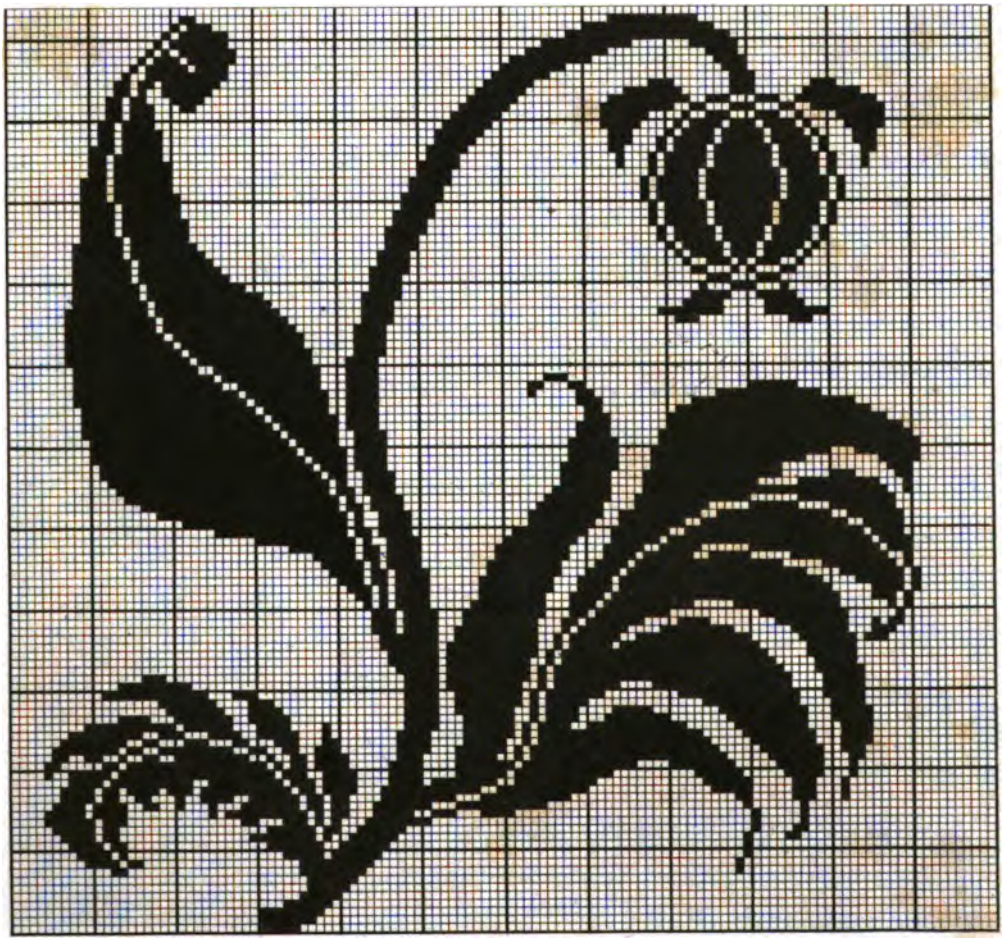


Fig. 11.
Damask



...n by John Duncan. Published as the Act directs, 1809, by Longman, Hurst, Rees & Orme, Paternoster Row. Engraved by Wilson Lowry.

MISCELLANY.

DIAGONAL MOTION.

Fig. 1.

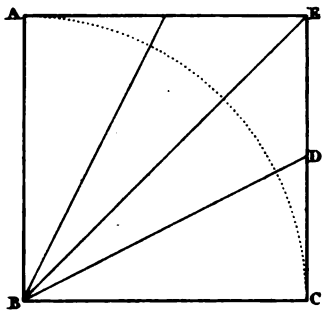


Fig. 2.

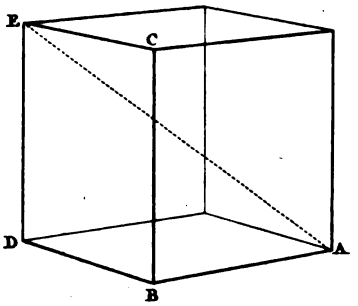


Fig. 3.

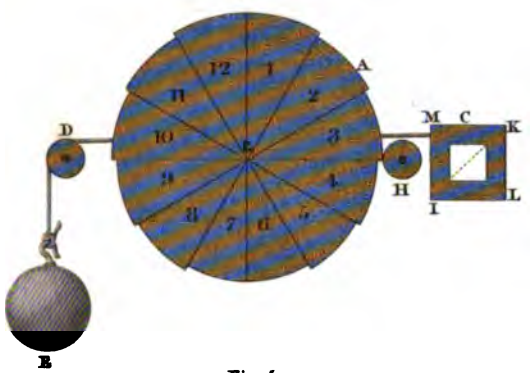


Fig. 4.

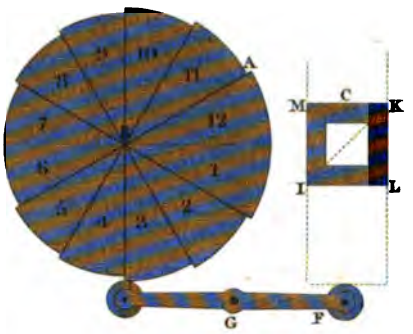


Fig. 5.

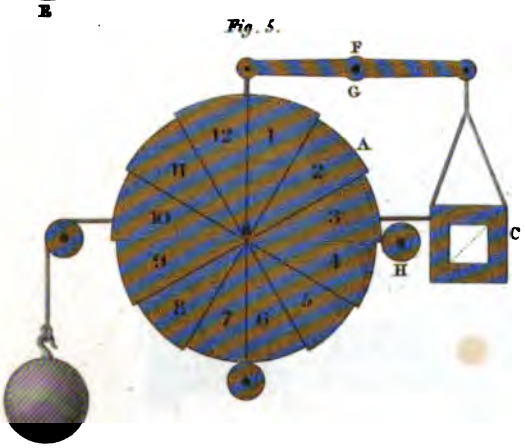


Fig. 6.

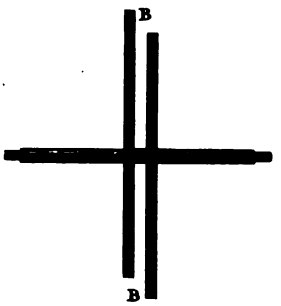


Fig. 7.

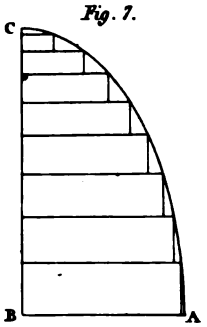
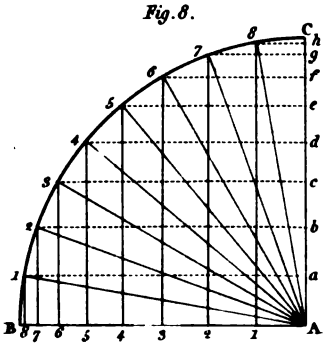


Fig. 8.



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Engraved by Wilson Lowry.

DIAGONAL MOTION,

Dividing and Cutting Engine.

Fig. 19.

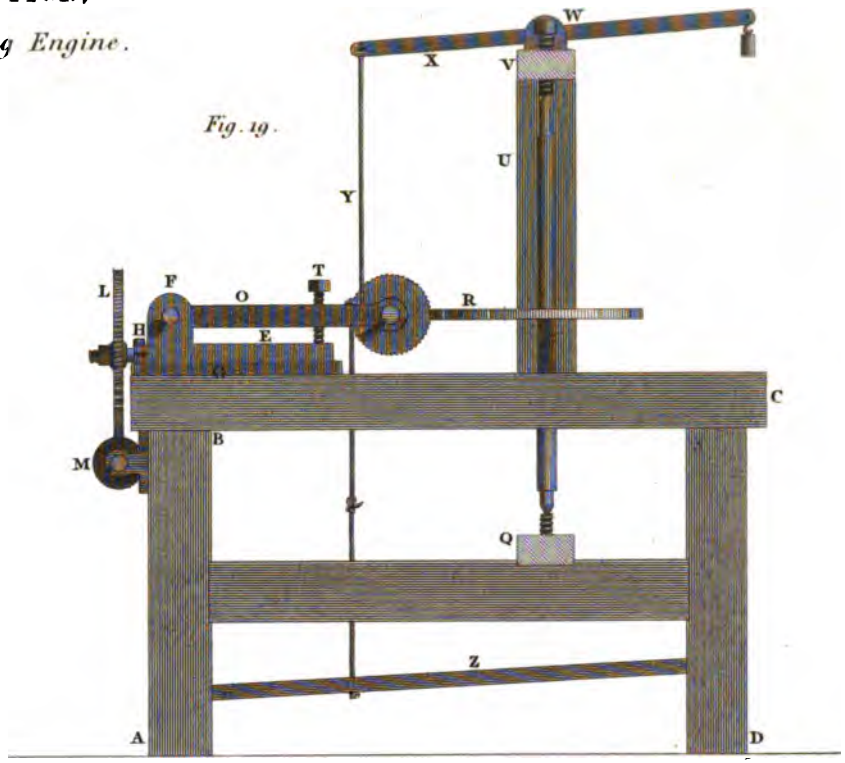


Fig. 20.

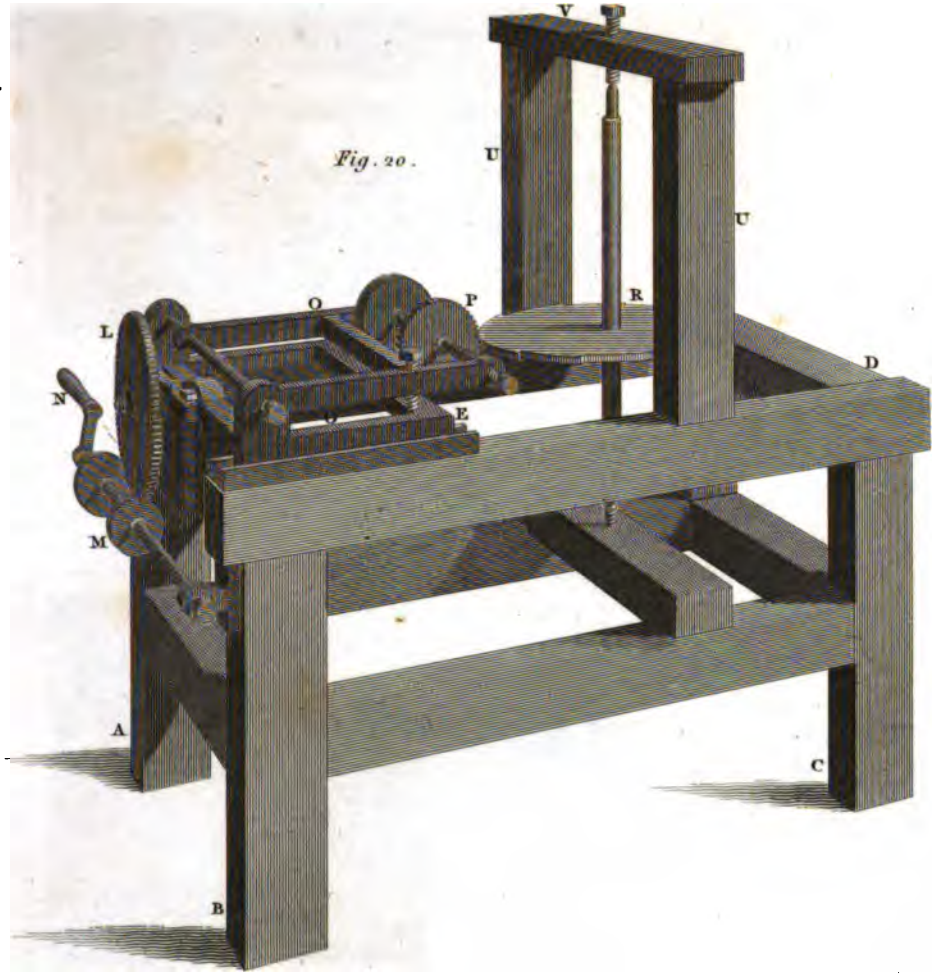
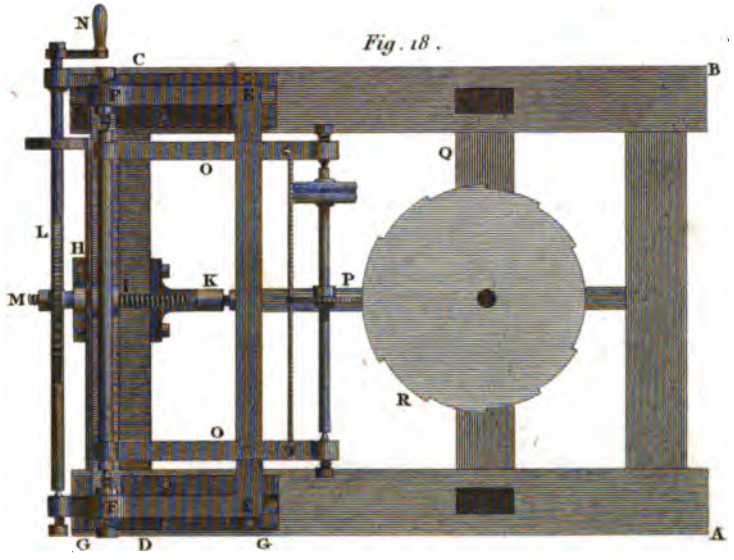


Fig. 18.

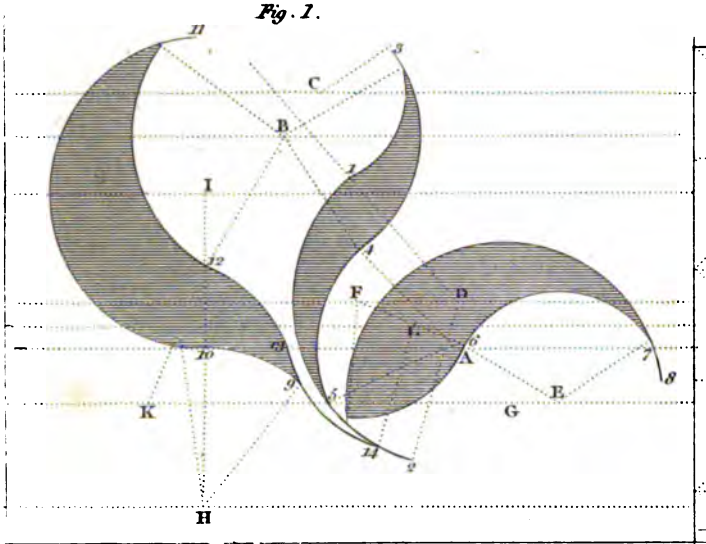


Duncan del. Published as the Act directs 1812, by Longman, Hurst, Rees, Orme & Brown, Paternoster Row. Engraved by W. Lowry.

MISCELLANY.

DIAGONAL MOTION.

Fig. 1.



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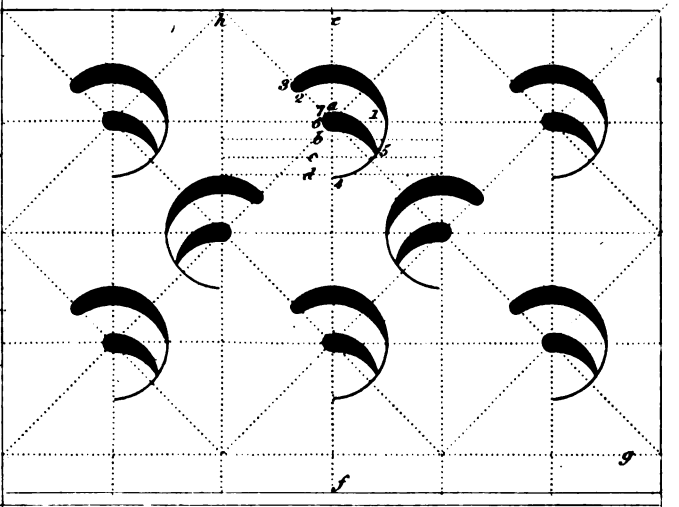

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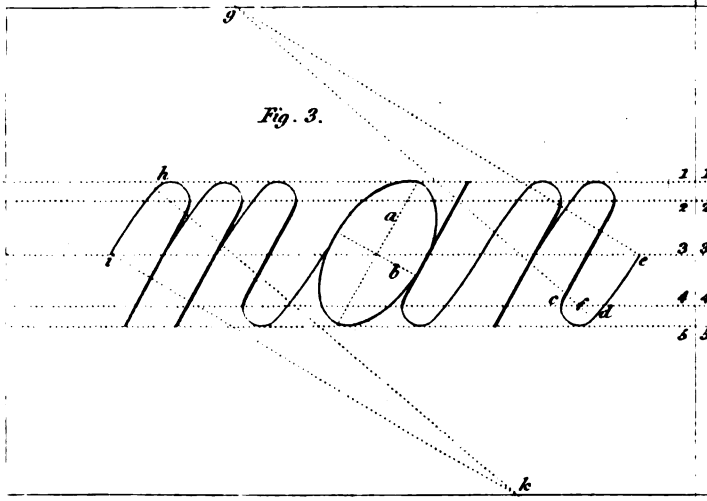


Fig. 4.

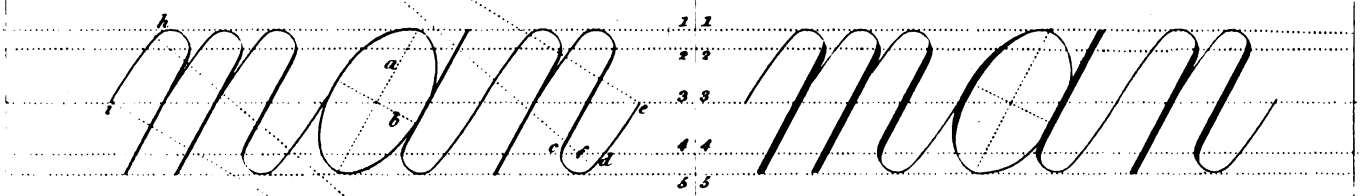


Fig. 5.

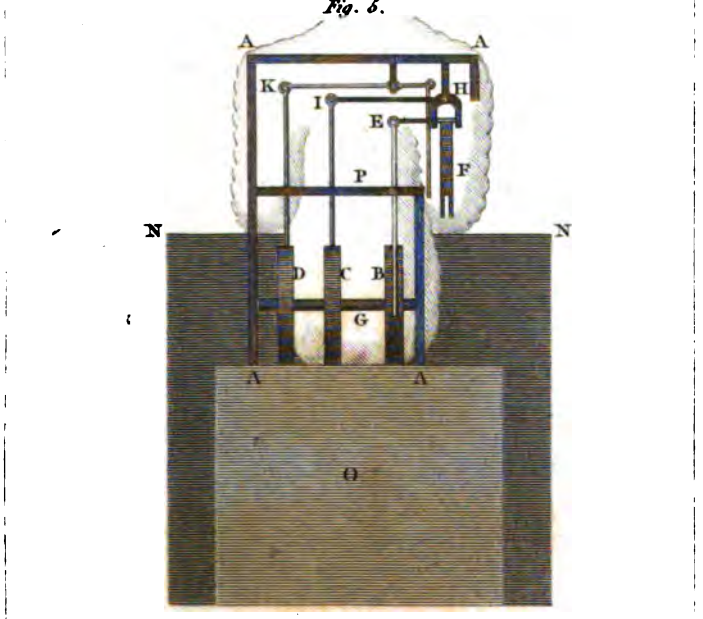
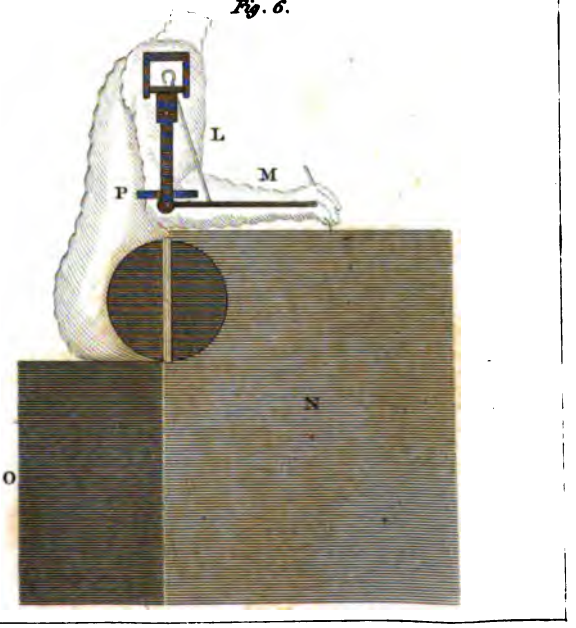


Fig. 6.



Invented and Drawn by John Duncan.

Engraved by Wilson Lowry.

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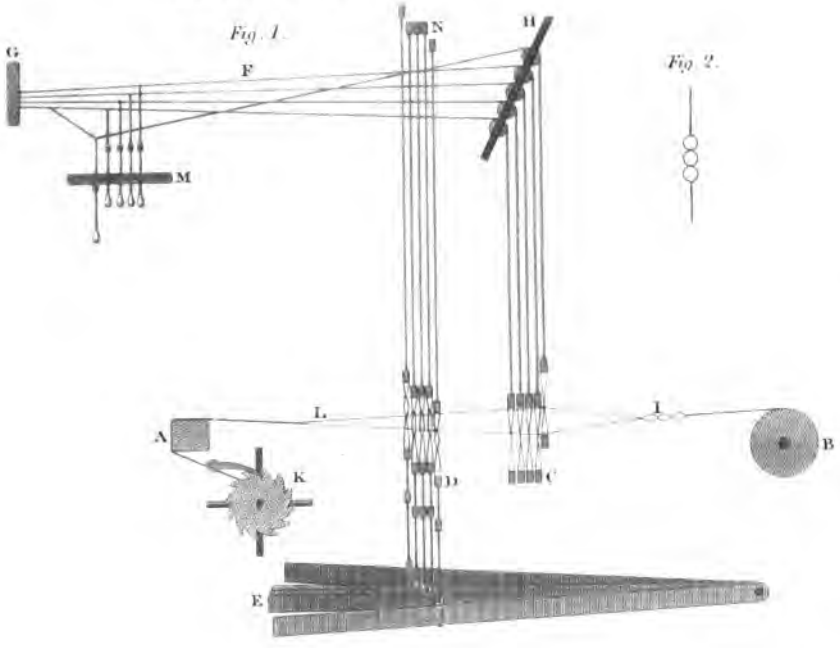
DIAPER LOOM.



DRAW LOOM.

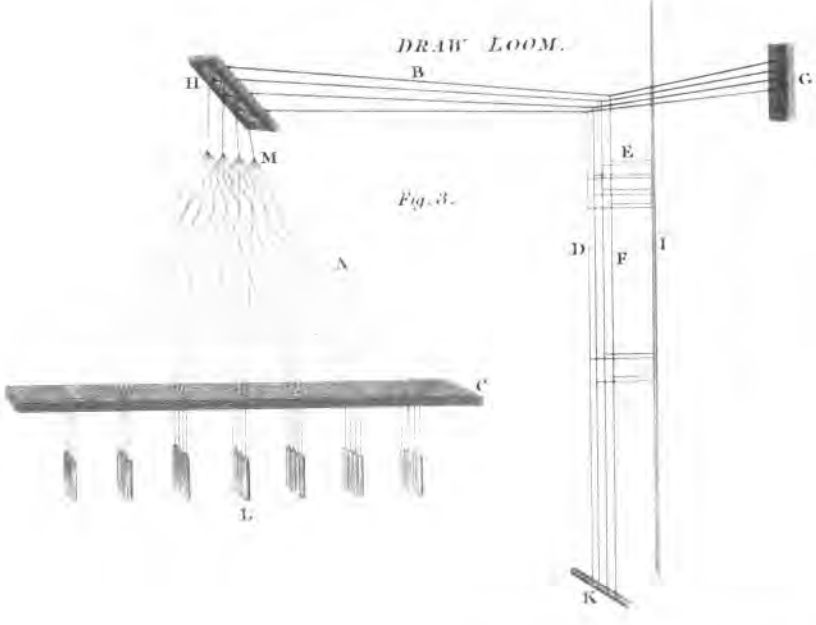
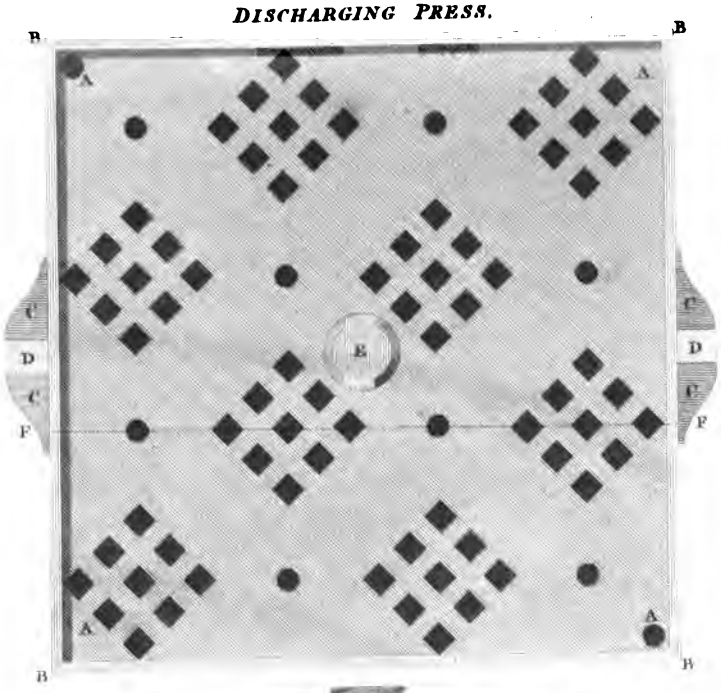


Fig. 3.
PLAN
DISCHARGING PRESS.



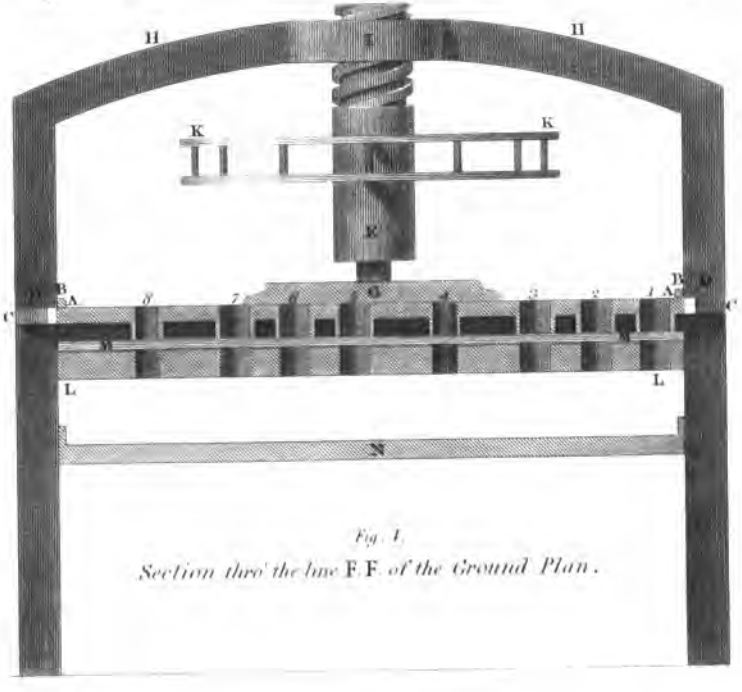


Fig. 1.
Section thro' the line F.F. of the Ground Plan.

Drawn by John Duncan

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DRAMATIC MACHINERY.

Fig. 1.

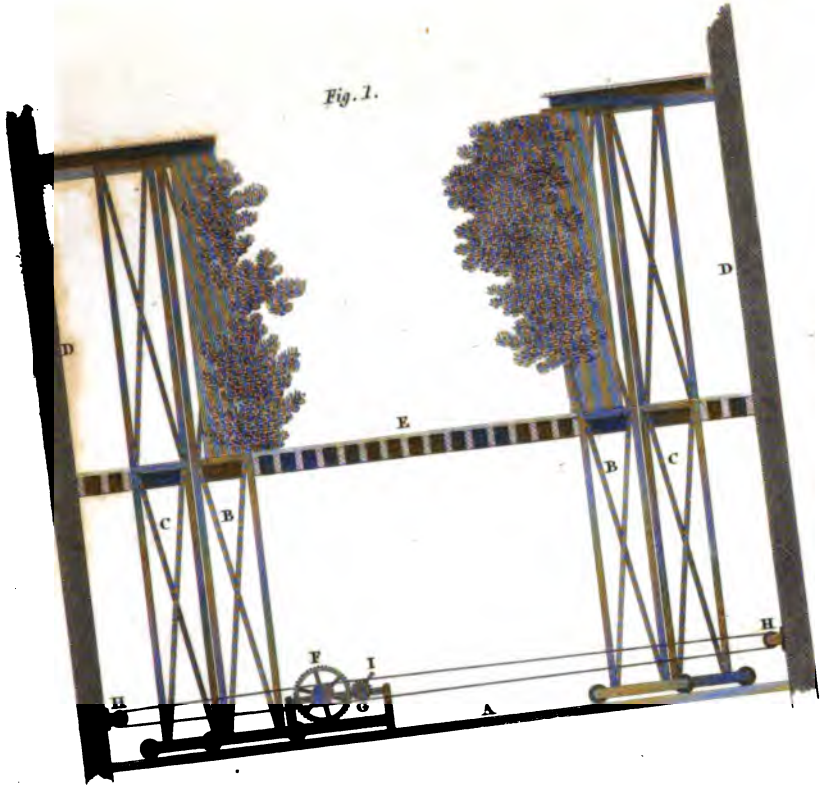


Fig. 1.

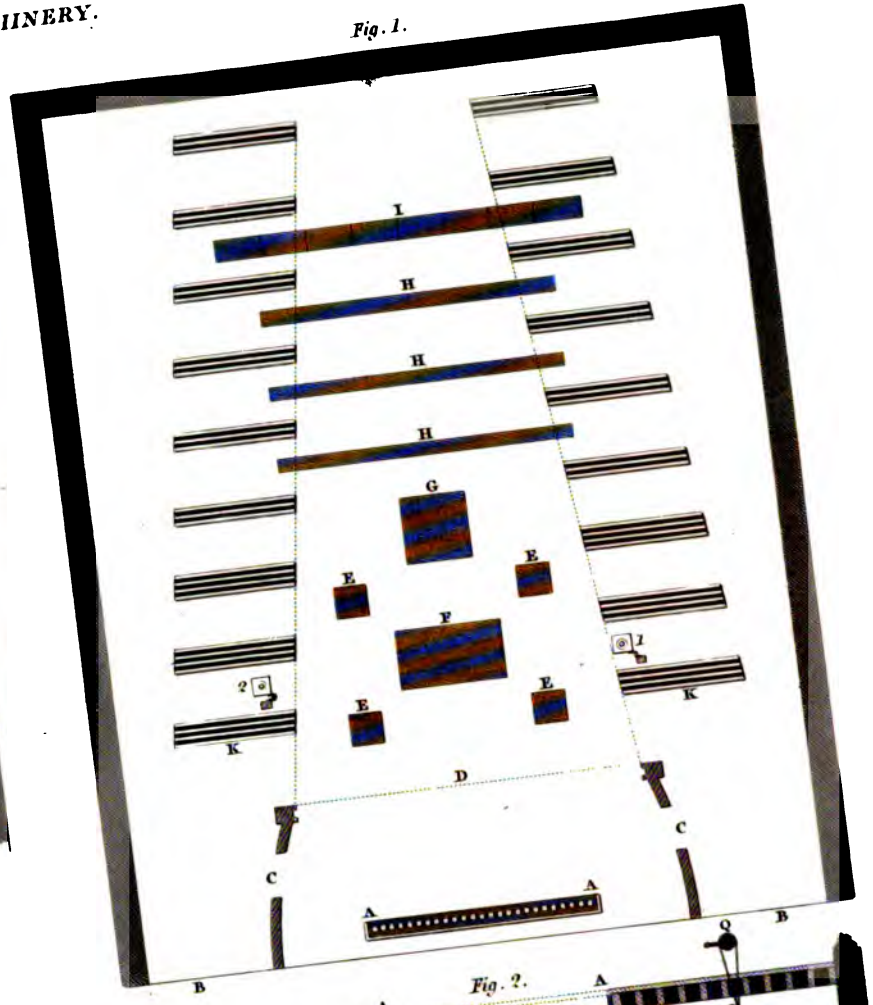


Fig. 2.

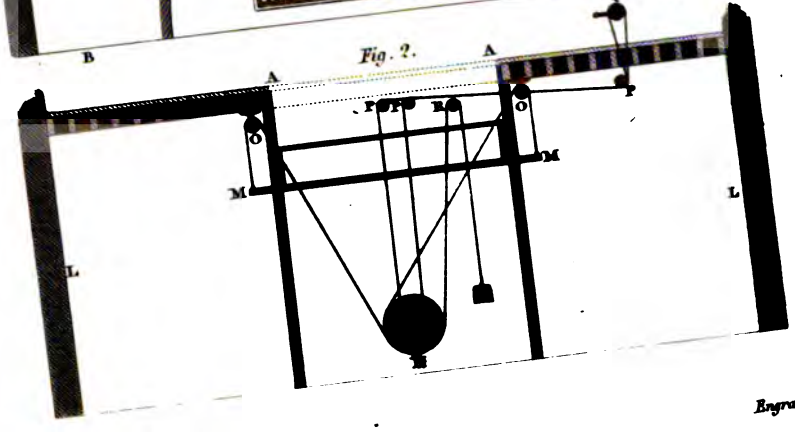


Fig. 3.

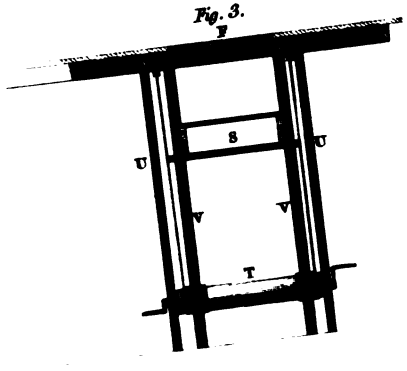
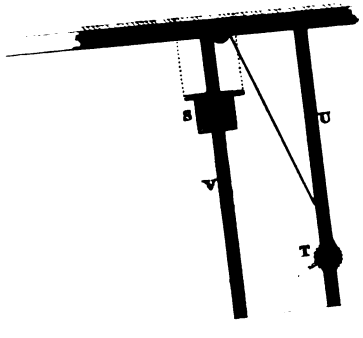


Fig. 4.



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MISCELLANIES.

DRAMATIC MACHINERY.

PLATE X.

Fig. 2.

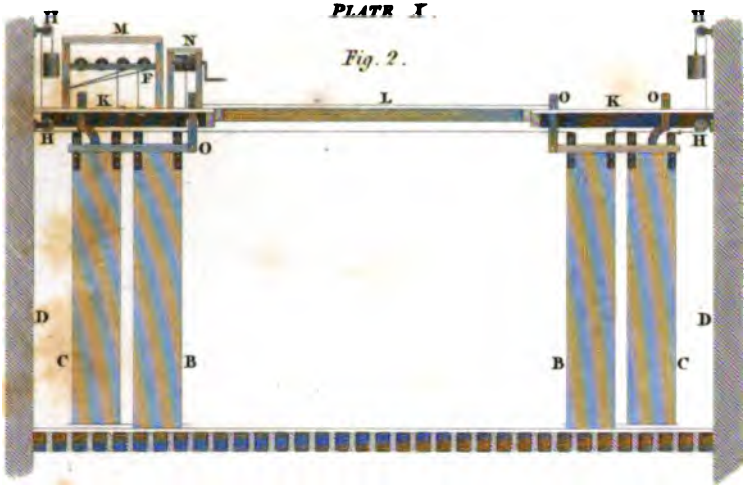


PLATE XI.

Fig. 1.

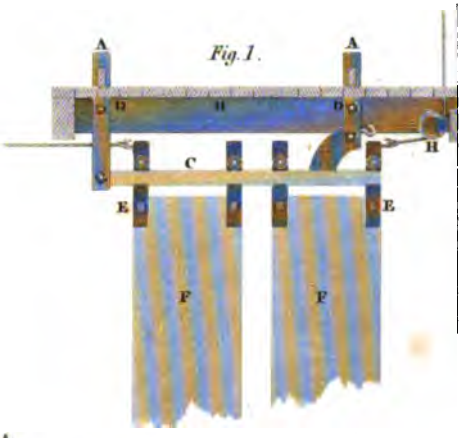


Fig. 2.

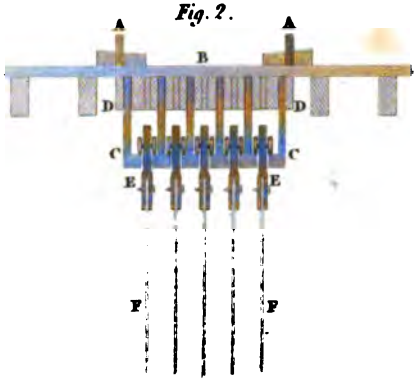


Fig. 3.

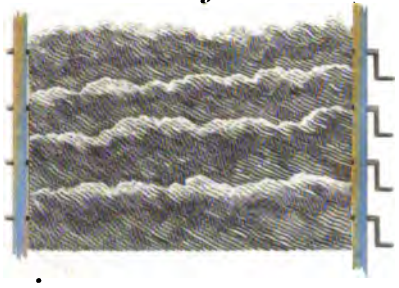
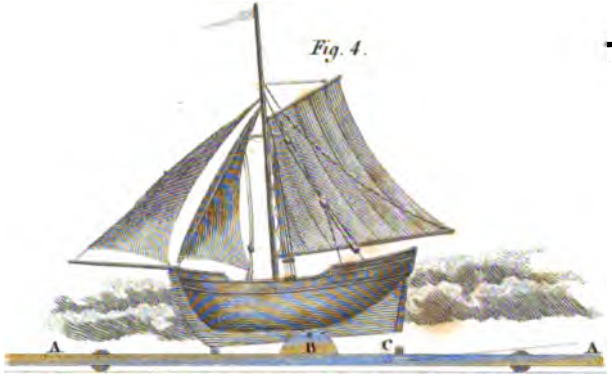


Fig. 4.



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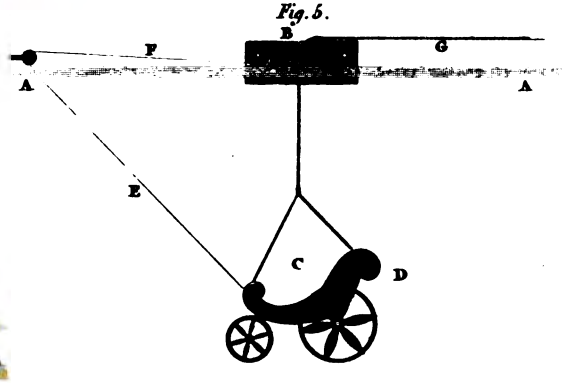


Fig. 6.

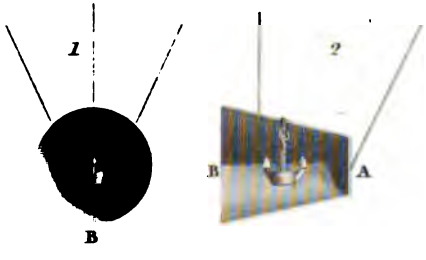


Fig. 7.

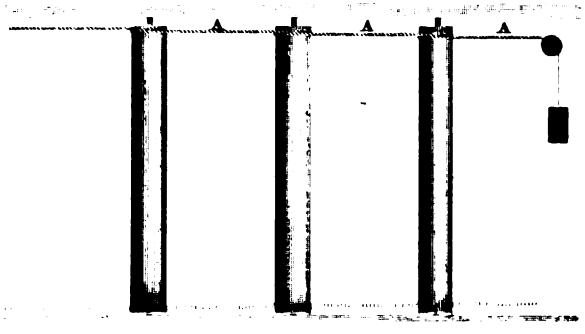
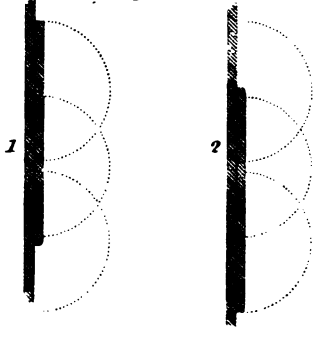


Fig. 8.



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MISCELLANY.

DRAUGHT AND CORDING OF LOOMS.

Fig. 1.
5 Leaf Tweel

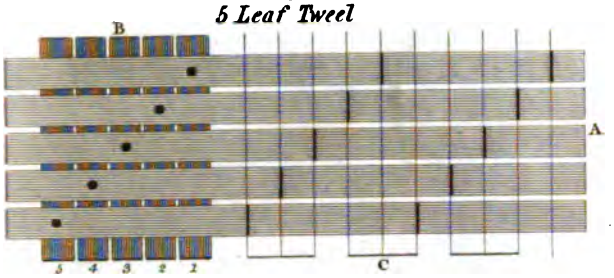


Fig. 2.
Broken Tweel

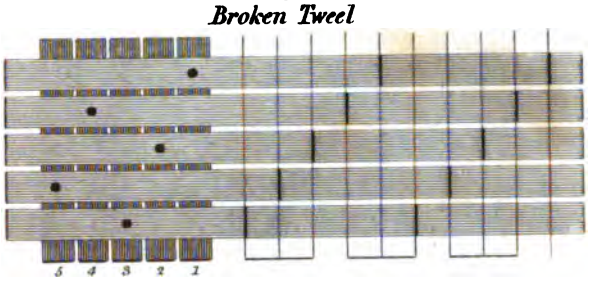


Fig. 3.
8 Leaf Tweel

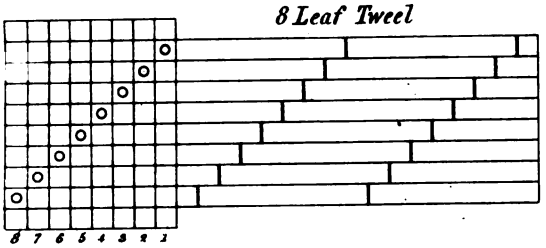


Fig. 4.
Broken Tweel

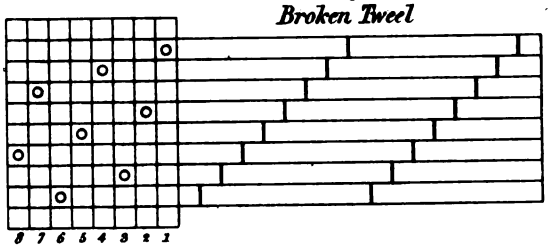


Fig. 5.
Striped Dimity

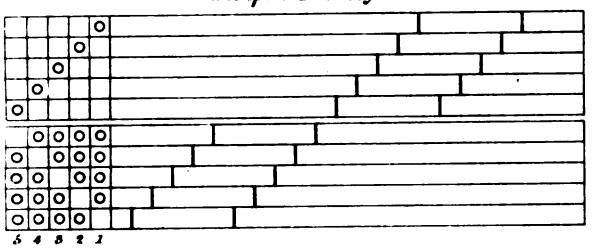


Fig. 6.
Dornock

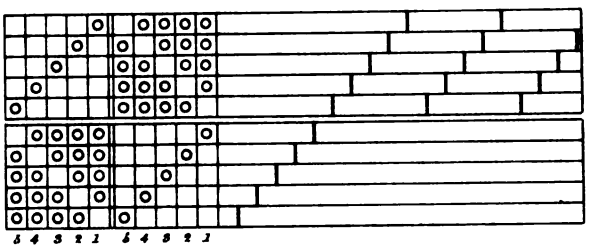


Fig. 7.
Fancy Dimity

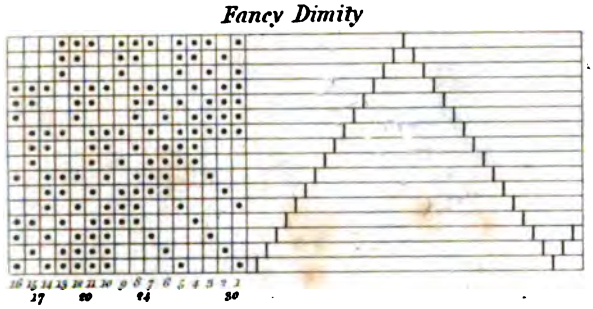


Fig. 8.
Diaper

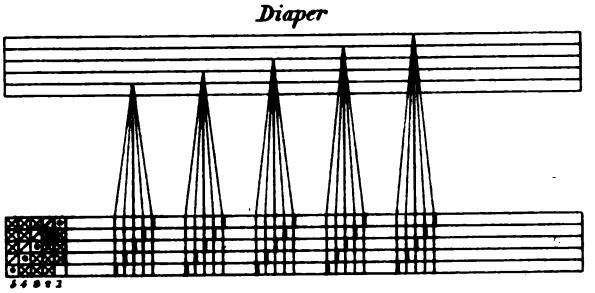


Fig. 9.
Similar Spot

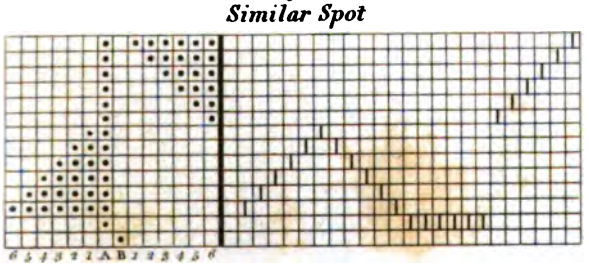
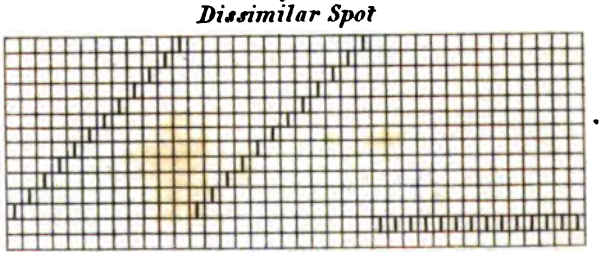
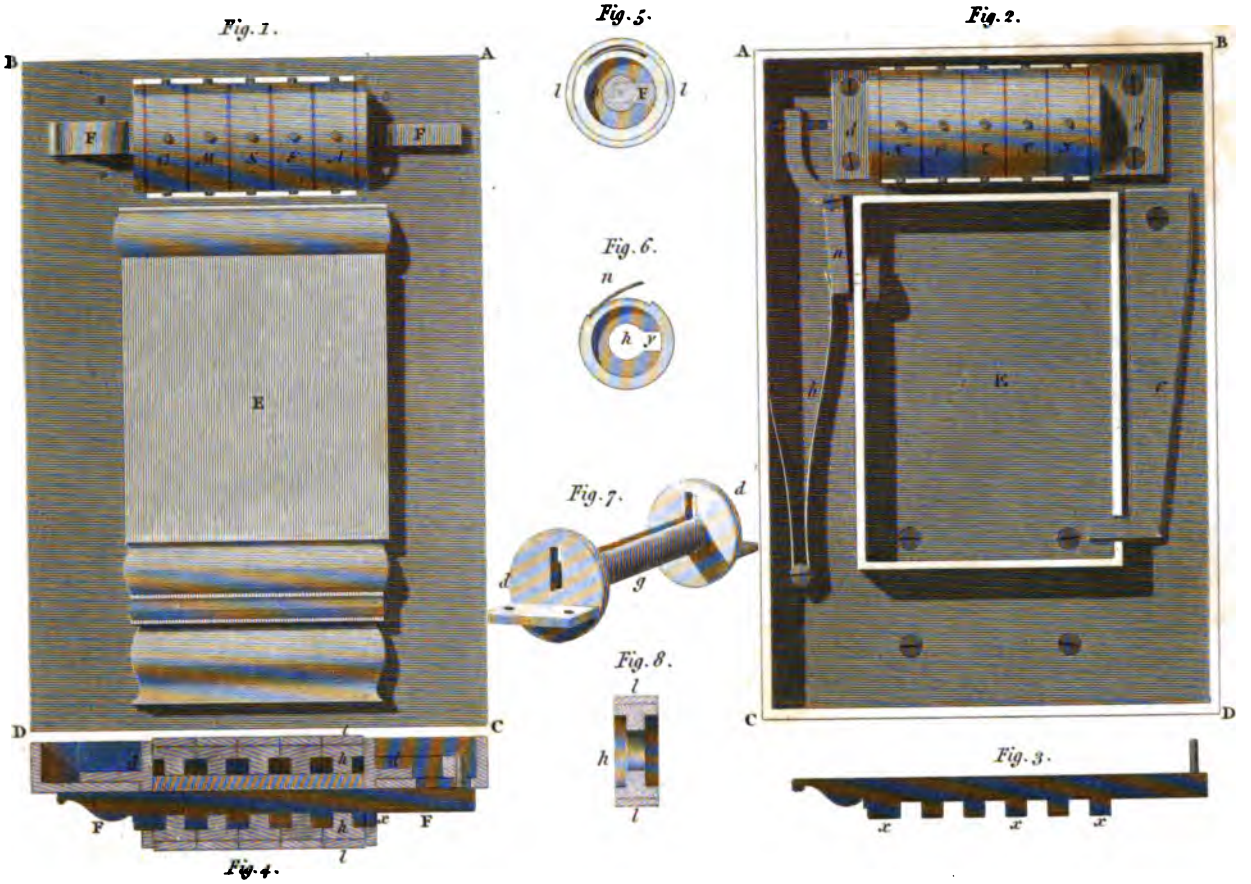


Fig. 10.
Dissimilar Spot

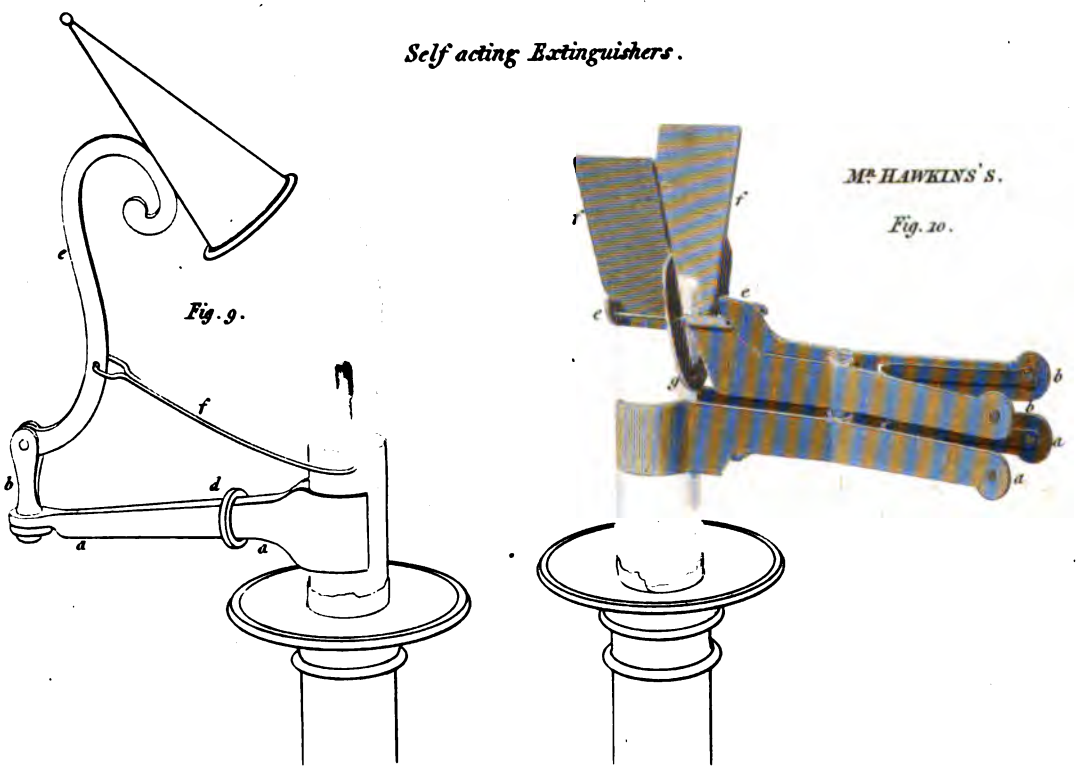


Drawn by John Duncan. Published as the Act directs, 1809, by Longman, Hurst, Rees & Orme, Paternoster Row. Engraved by Wilson Lowry.

Mr. Marshal's Secret Escutcheon for a Key Hole.



Self acting Extinguishers.



J. Farey Junr. delin.

Published as the Act directs, 1810, by Longman, Hurst, Rees and Orme, Paternoster Row.

Engraved by Wilson Lowry.

Mr. Maseré's, Original suspension.

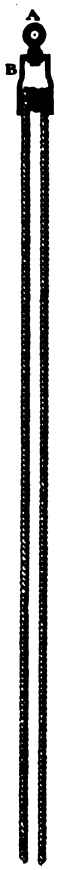


Fig. 13.

Fig. 13.

Mr. Maseré's, FIRE ESCAPE Simplified by Mr. Forster.

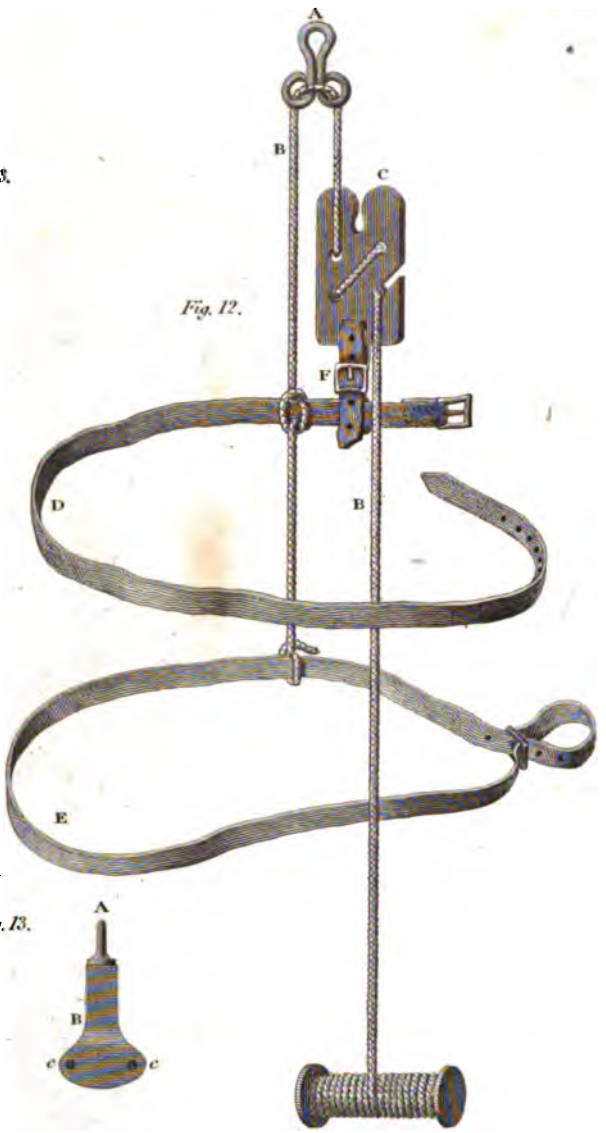


Fig. 12.

Painters EASEL.

Fig. 1.

Indigo

Fig. 1.

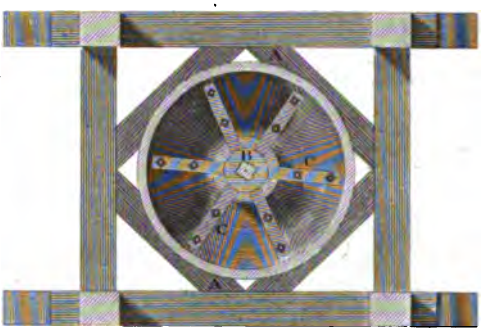
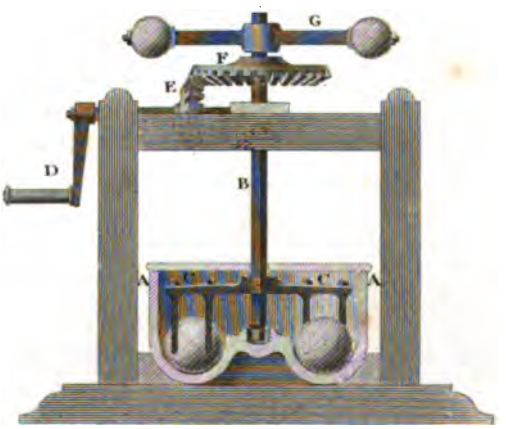


Fig. 2.



INDIGO Mills.

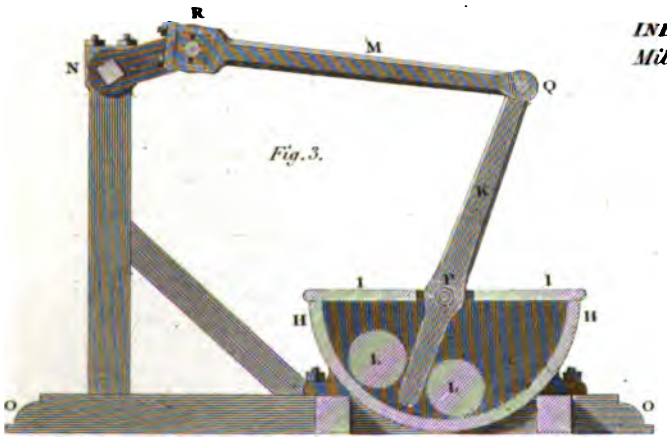


Fig. 3.

Published as the Act directs, 1814, by Longman, Hurst, Rees, Orme & Brown, Paternoster Row London.

Lowry sculp.

FILE CUTTING.

Fig. 6.

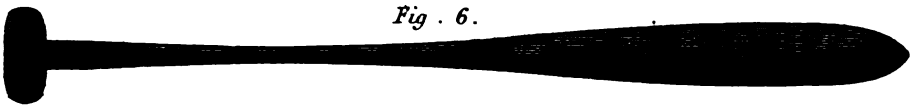


Fig. 5.

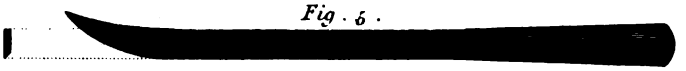


Fig. 4.

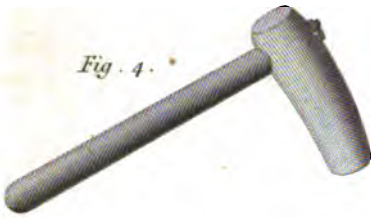


Fig. 1.

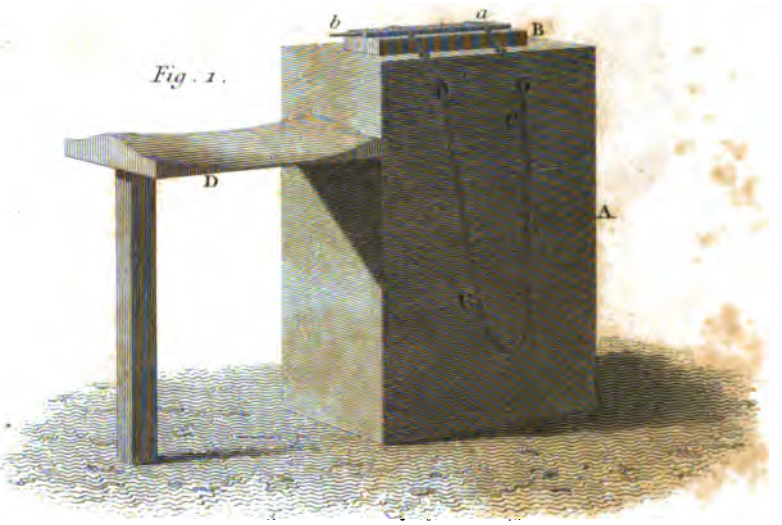


Fig. 7.

Fig. 3.

Fig. 2.

FILTERS.

Fig. 10.

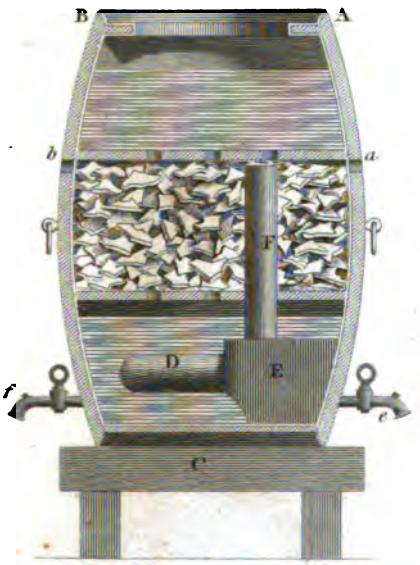


Fig. 8.

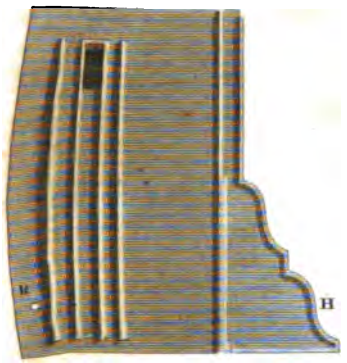
Fig. 9.

Farrey Junr. delin. Published as the Act directs, 1813. by Longman, Hurst, Rees and Co. Paternoster Row. Engraved by W. Lowry.

MISCELLANY.

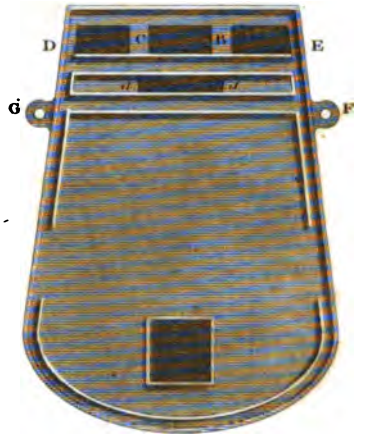
FIRE PLACE by Dr. FRANKLIN.

Side Plate
No. 3.

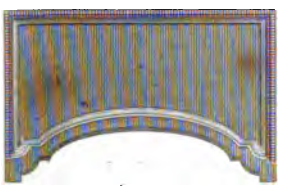


Back Plate
No. 2.

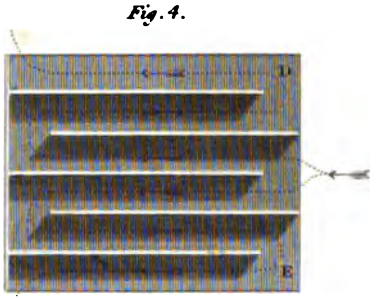
Bottom Plate
Fig. 2. No. 1.



Front Plate
Fig. 5.

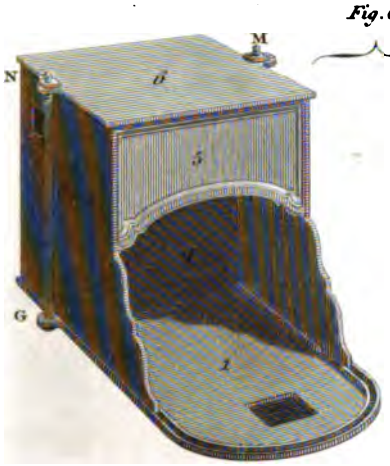


Air Box
Fig. 4.



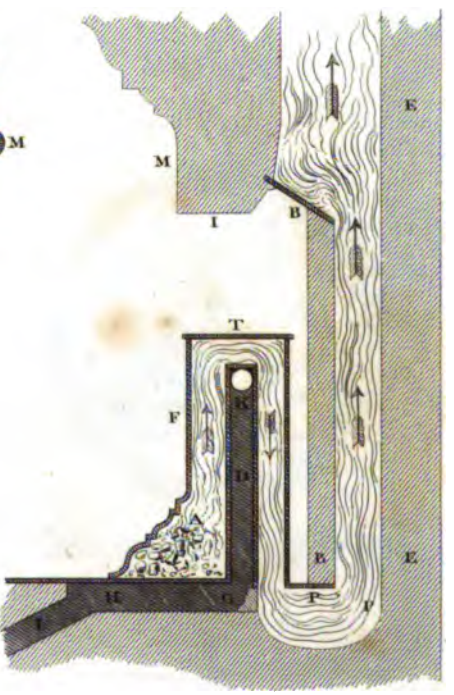
Ledges
Fig. 3.

Fig. 6.

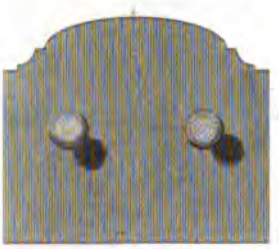


Top Plate
No. 6.

Fig. 7.



Shutter
No. 7.



Register
No. 8.

Jun. del.

Published as the Act directs, 1814, by Longman, Hurst, Rees, Orme & Brown, Paternoster Row, London.

Engraved by H.

MISCELLANY

Hawkins's Claviole or FINGER Keyed Viol.

Fig. 1.

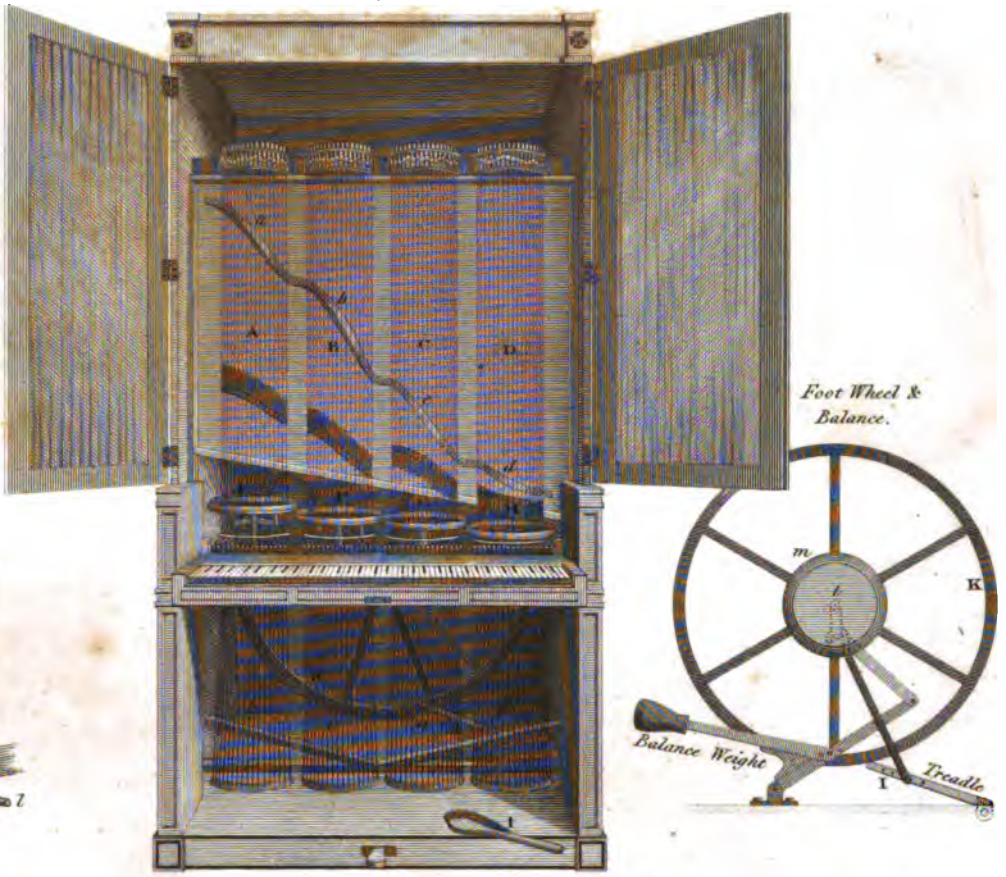


Fig. 5. or 7.

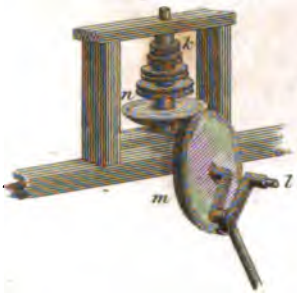


Fig. 3.

Fig. 4.

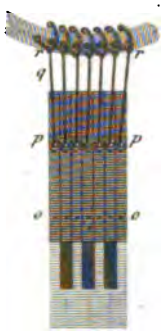


Fig. 2.

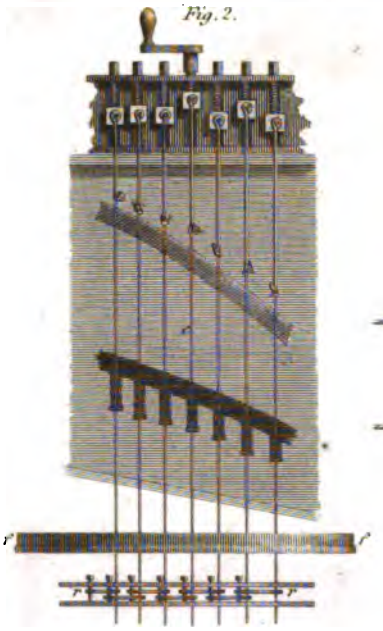


Fig. 3. or 5.

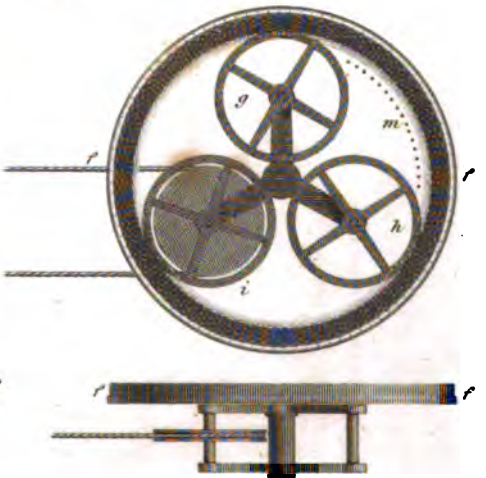
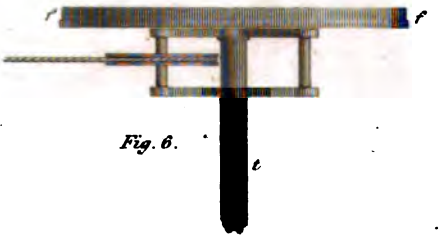


Fig. 6.



Published as the Act directs, 1814, by Longman, Hurst, Rees, Orme & Brown, Paternoster Row, London.

FLOOD GATES.

Smeaton's.

Fig. 5:6. Plan.

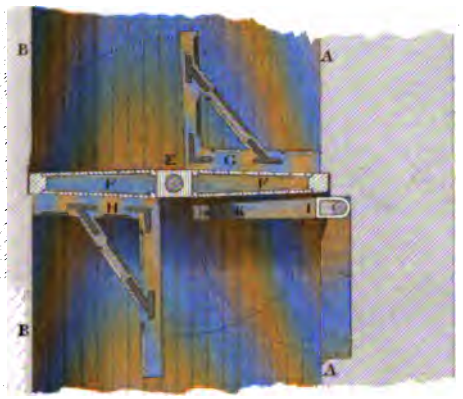


Fig. 2. Elevation.

Fig. 8.

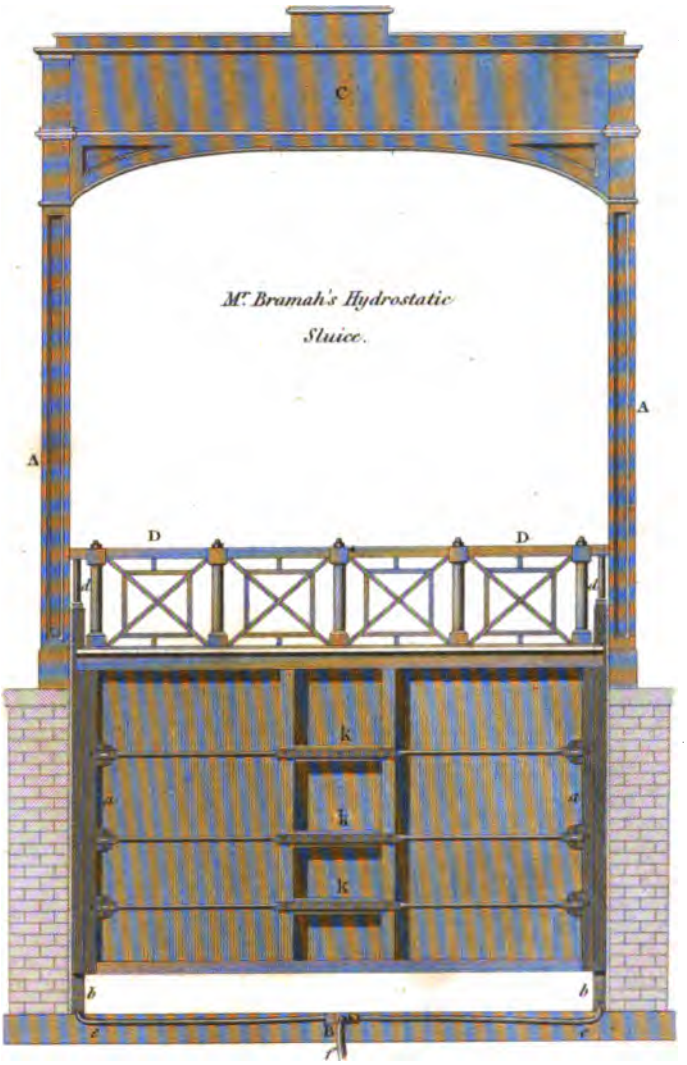


Fig. 7. Self acting flood Gate by Mr. Farey.

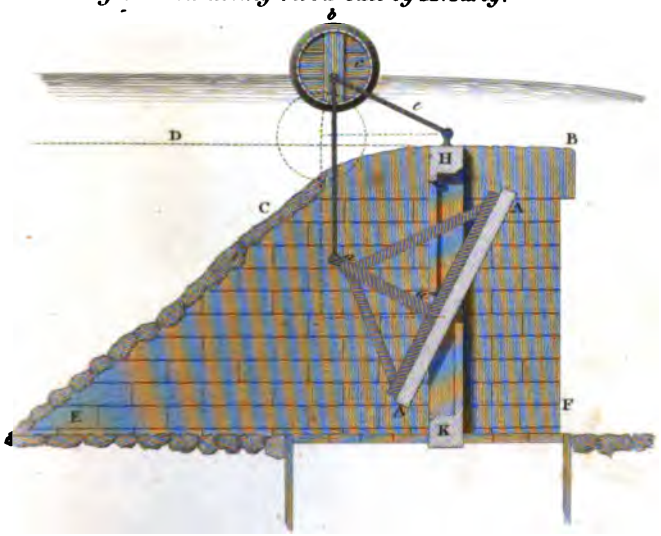


Fig. 9.

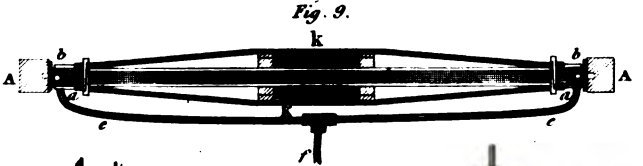
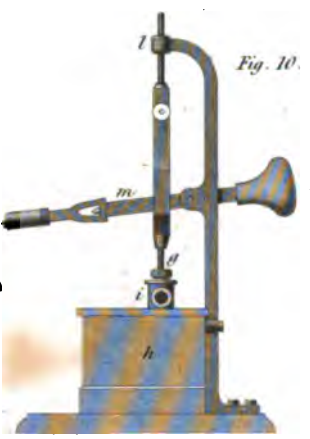


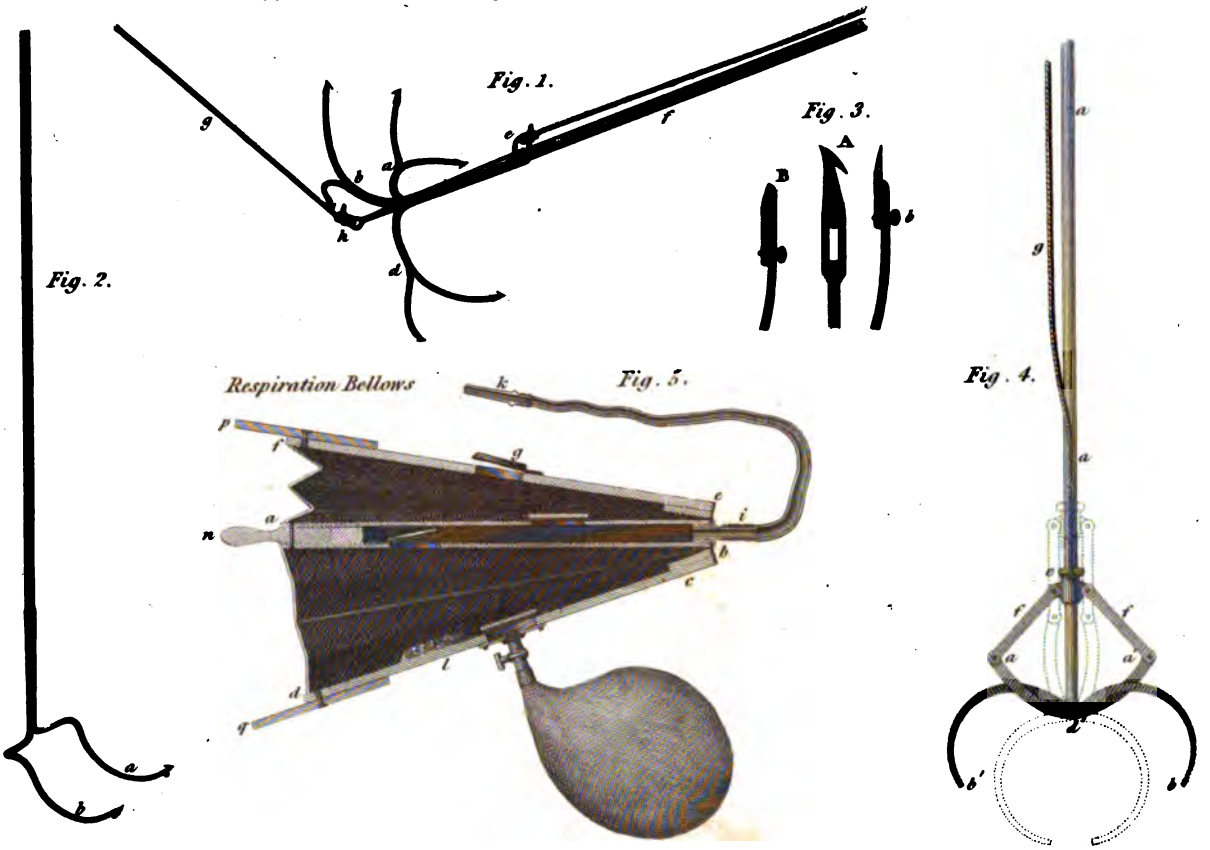
Fig. 11.

Fig. 10.



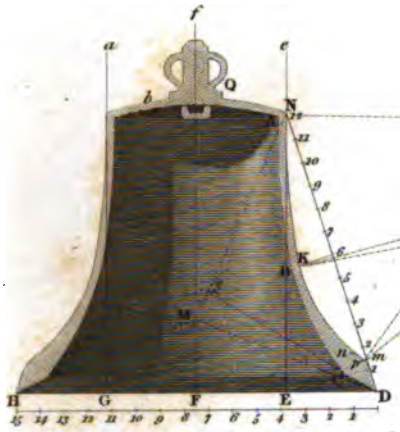
J. Farey Junr delin. Published as the Act directs, 1816, by Longman, Hurst, Rees, Orme & Brown, Paternoster Row. Lowry Sc.

Apparatus for restoring those DROWNING to life.

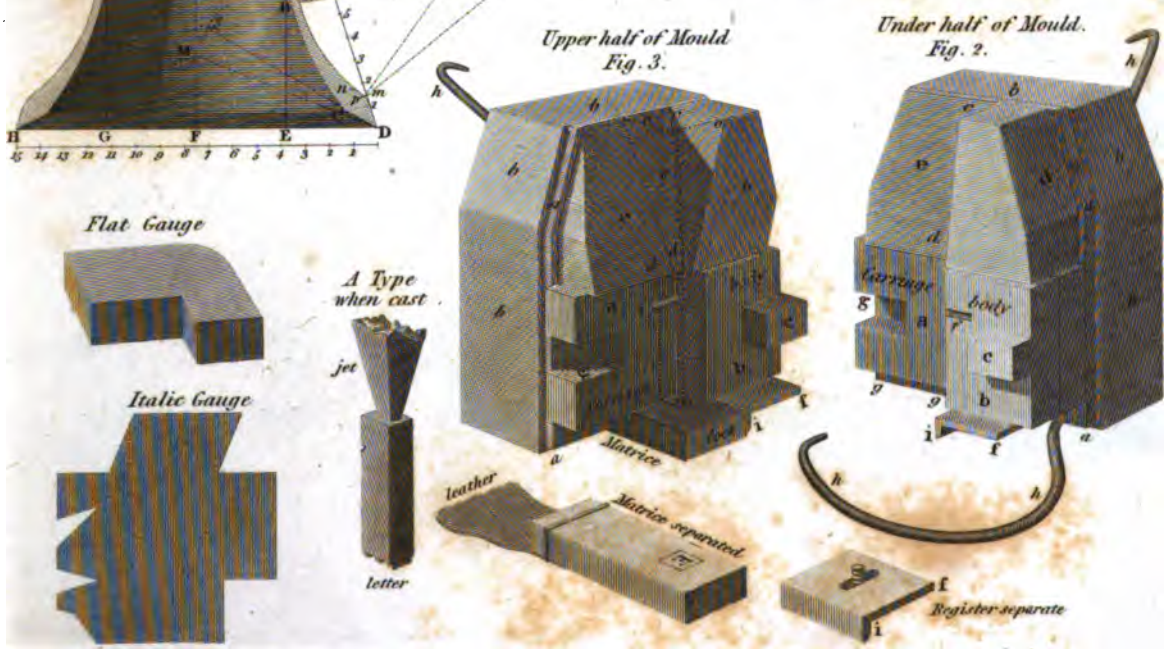


FOUNDRY of BELLS.

Fig. 1.



FOUNDRY of LETTERS or TYPES.



FOUNTAIN Pen. Fig. 4.

J. Fairey delin. Published as the Act directs, 1824, by Longman, Hurst, Rees, Orme and Brown, Paternoster Row. Engraved by Wilson Lowry.

Sea GAGE

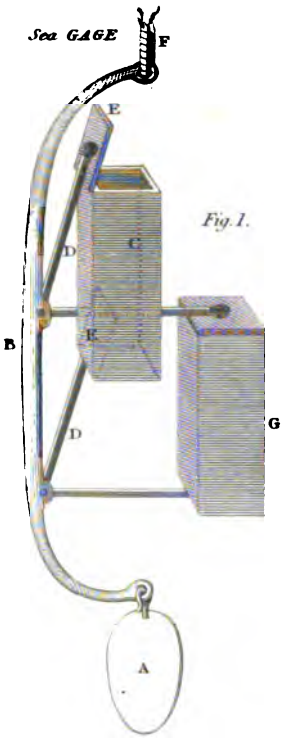


Fig. 1.

GAGE

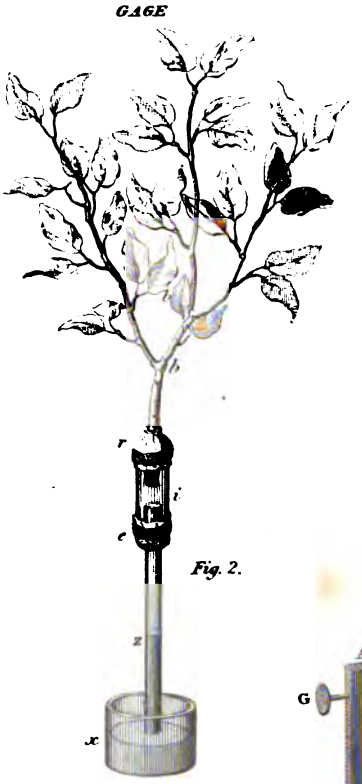


Fig. 2.

PYROMETER

Fig. 4.

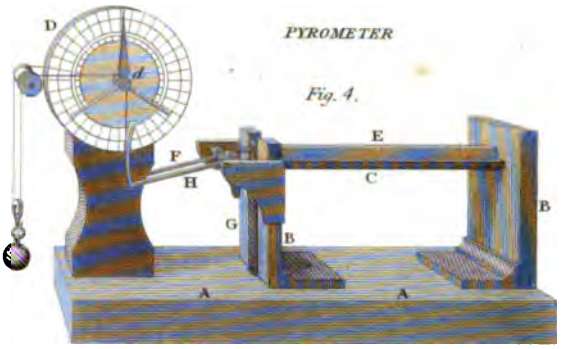
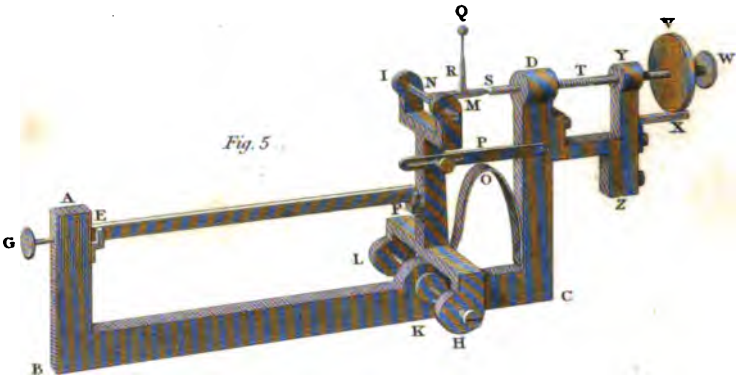


Fig. 5



Rain GAGE

Fig. 10.

Fig. 7.

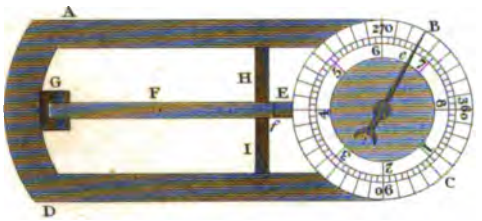


Fig. 8.

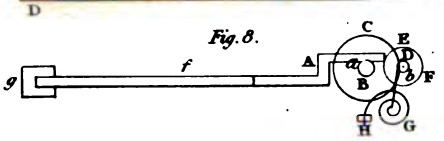


Fig. 6.

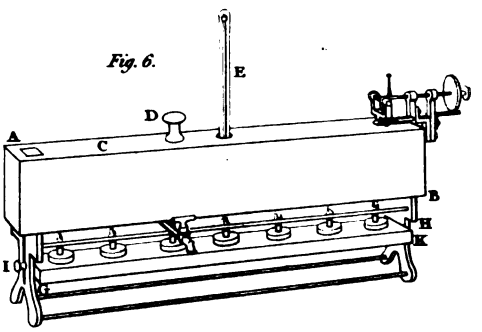
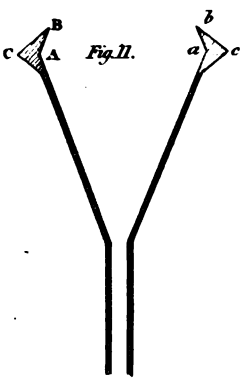


Fig. 11.



MARQUETRY

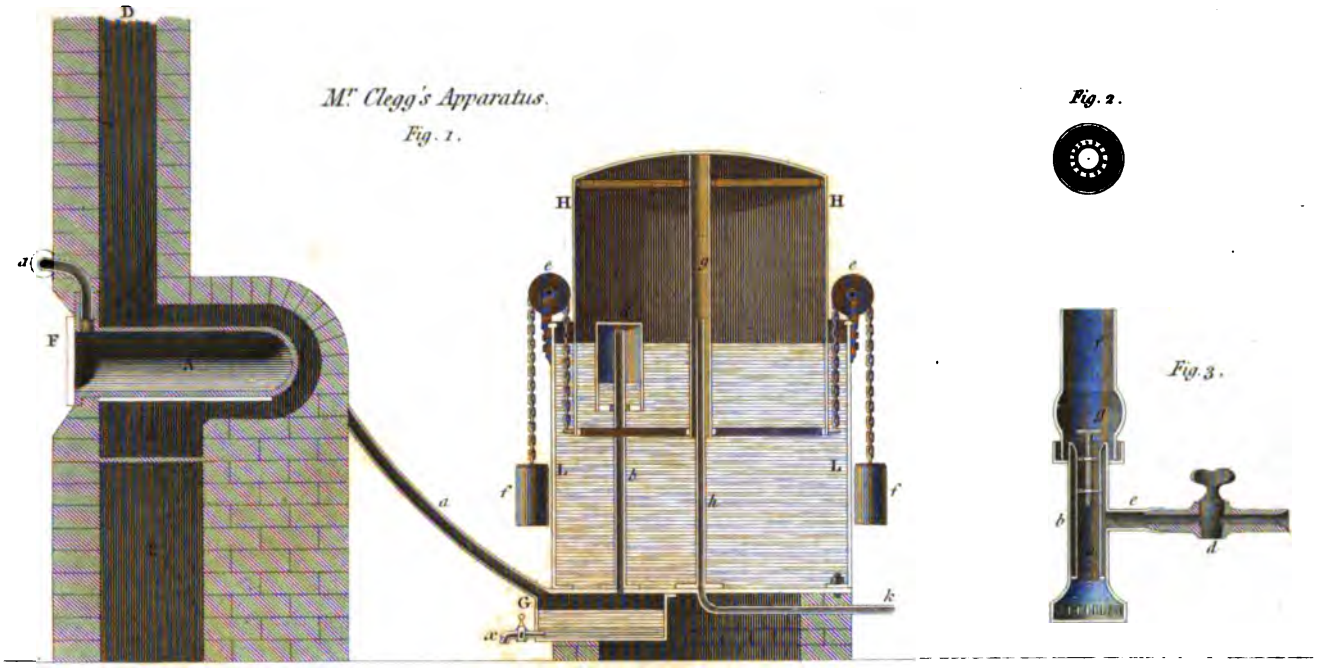
Fig. 3

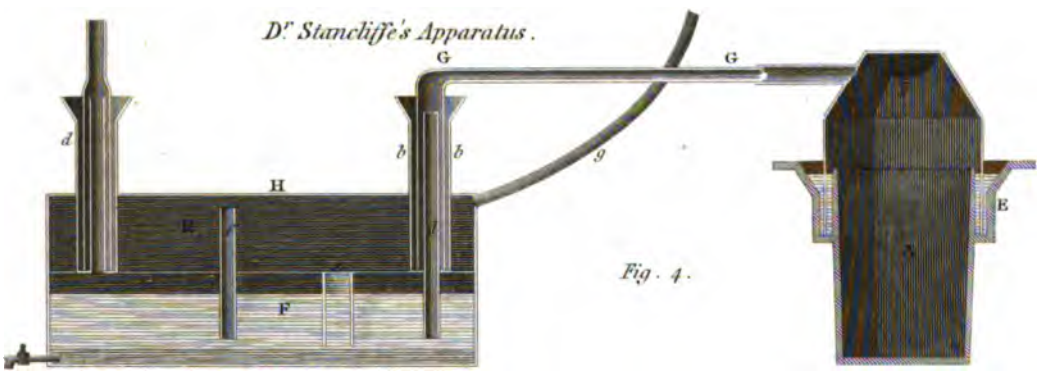
Fig. 9

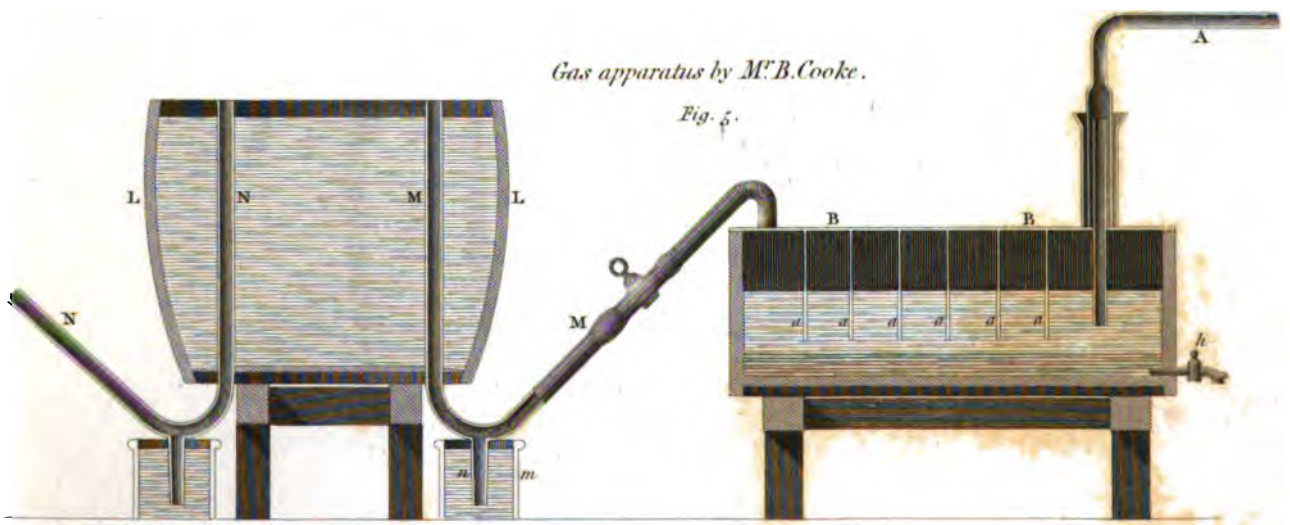
Published as the Act directs, 1818, by Longman, Hurst, Rees, Orme, and Brown, Paternoster Row, London.

Lowry

GAS LIGHTS







J. Farey Junr. delin. Published as the Act directs, 1811. by Longman, Hurst, Rees, Orme & Brown, Paternoster Row. Engraved by Wilson Lowry.

GEM Engraving.

Fig. 2.

Fig. 3.

Fig. 4.

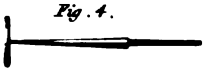


Fig. 5.

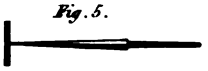


Fig. 6.

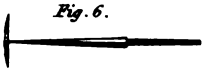


Fig. 10.

Fig. 11.

Fig. 12.

Fig. 1.

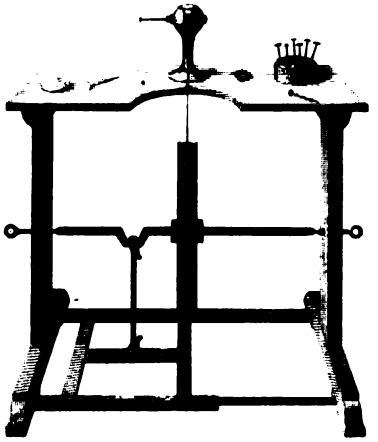


Fig. 7.

Fig. 8.

Fig. 9.

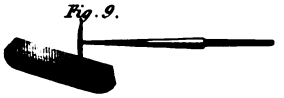


Fig. 16.

Fig. 14.

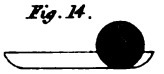


Fig. 15.

Fig. 13.

Fig. 17.

Fig. 18.

Drawn by Farey. Published as the Act directs 1819, by Longman, Hurst Rees, Orme & Brown, Paternoster Row. Engraved by W. Blake & W. Lowry.

GLANDERS.

PLATE XIX.

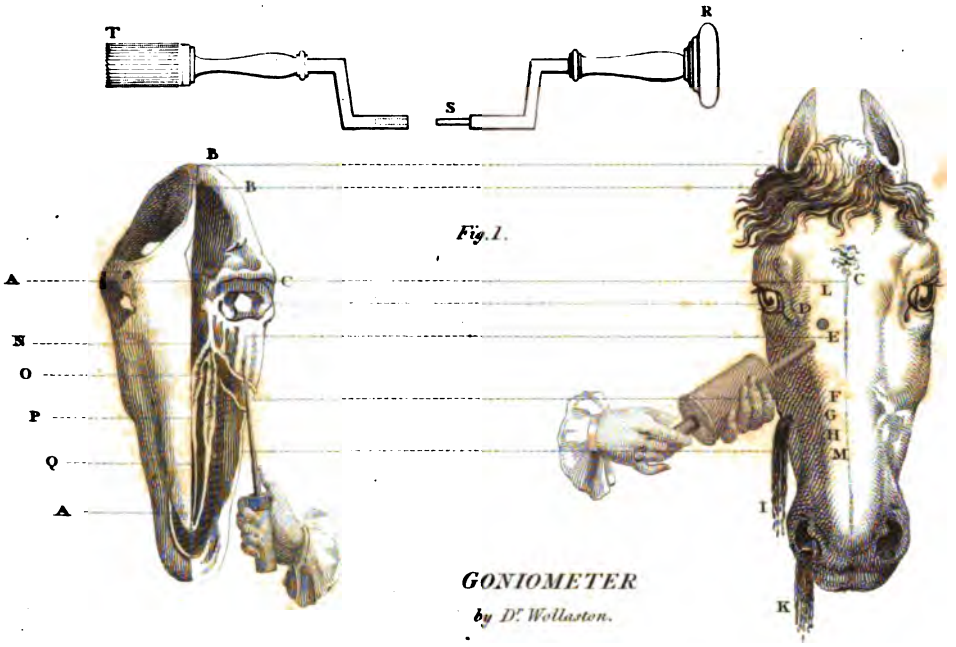


Fig. 1.

GONIOMETER

by Dr. Wollaston.

Fig. 3.

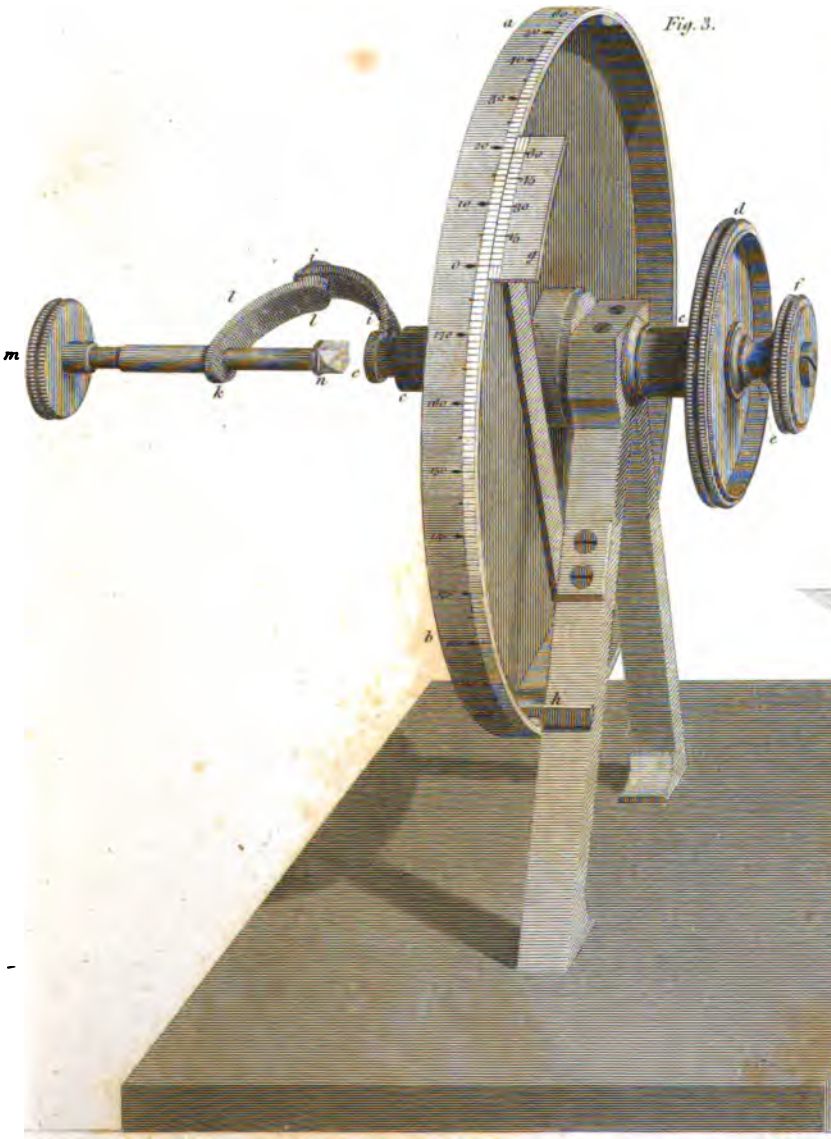
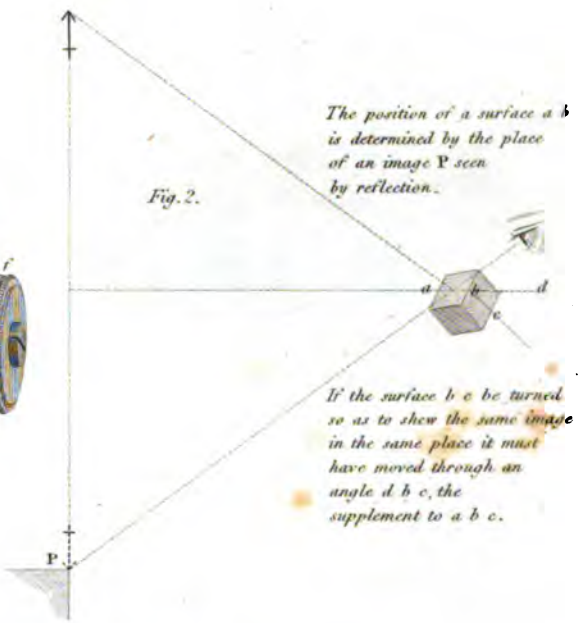


Fig. 2.



The position of a surface a b is determined by the place of an image P seen by reflection.

If the surface b c be turned so as to shew the same image in the same place it must have moved through an angle d b c, the supplement to a b c.

Lowry sculp.

Published as the Act directs, 1814, by Longman, Hurst, Rees, Orme & Brown, Paternoster Row.

BEE HIVE.

Fig. 1.

Fig. 2.

Fig. 3.

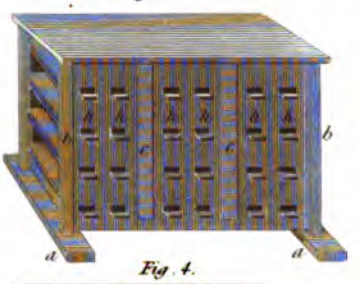
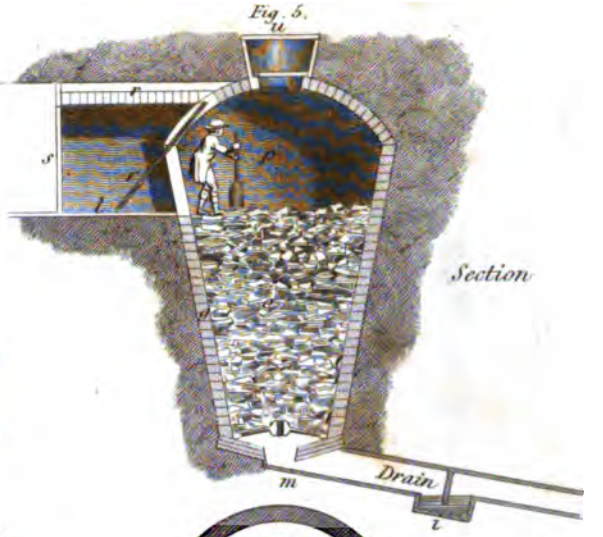


Fig. 4.

ICE HOUSE.

Fig. 5.



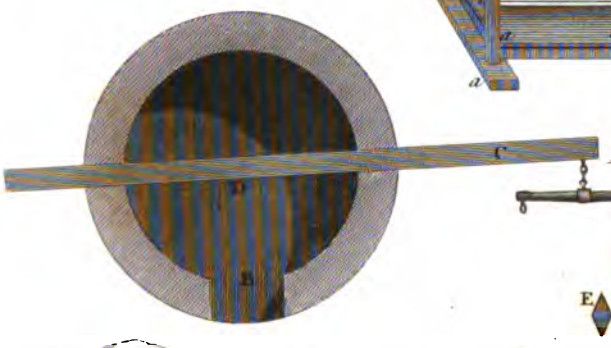
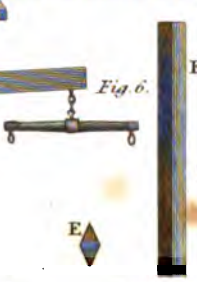
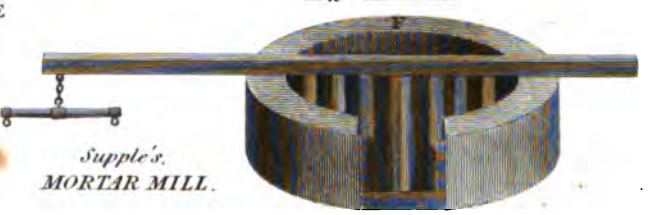


Fig. 6.





Supple's.
MORTAR MILL.

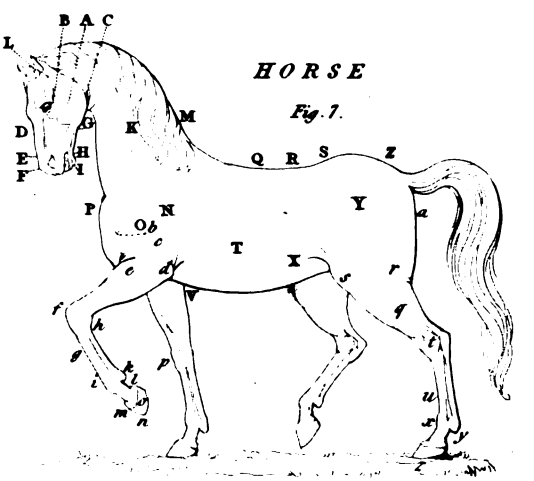
DRAPERY.

Fig. 8.

Fig. 9.

HORSE

Fig. 7.



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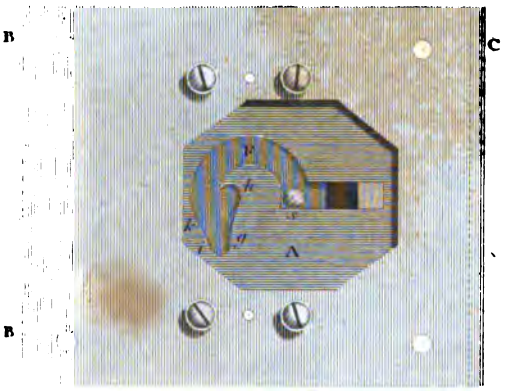
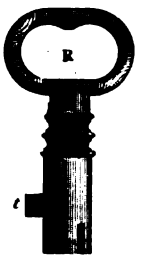
Mr Bramah's Patent Lock.

Fig. 2.





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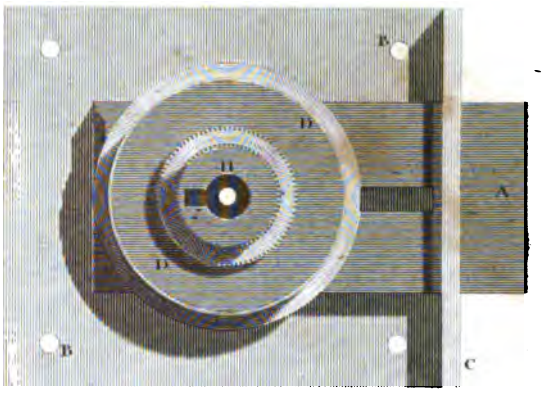

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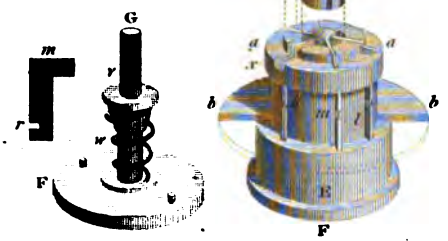
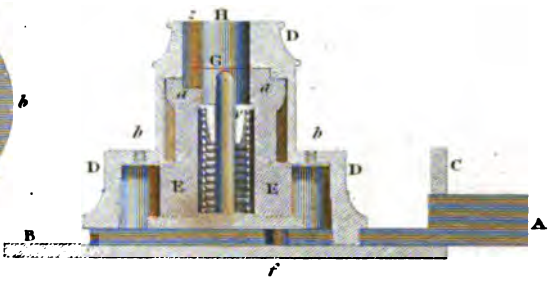


Fig. 3.



Mr Rowntree's Patent Lock.

Fig. 6.

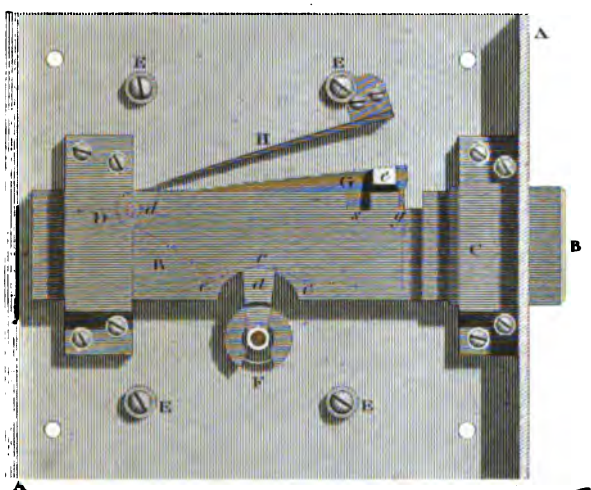


Fig. 5.

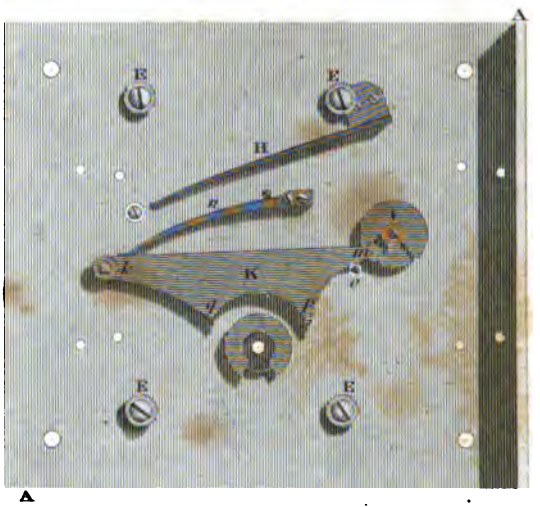
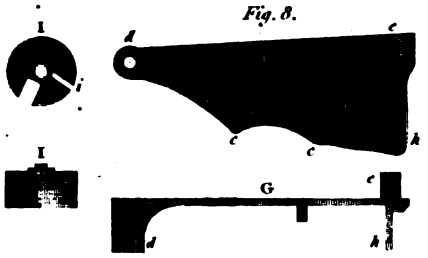
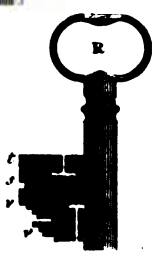


Fig. 8.





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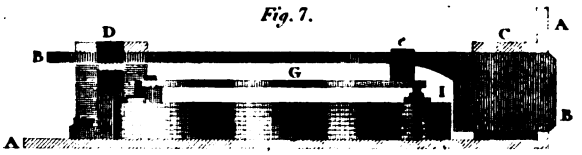

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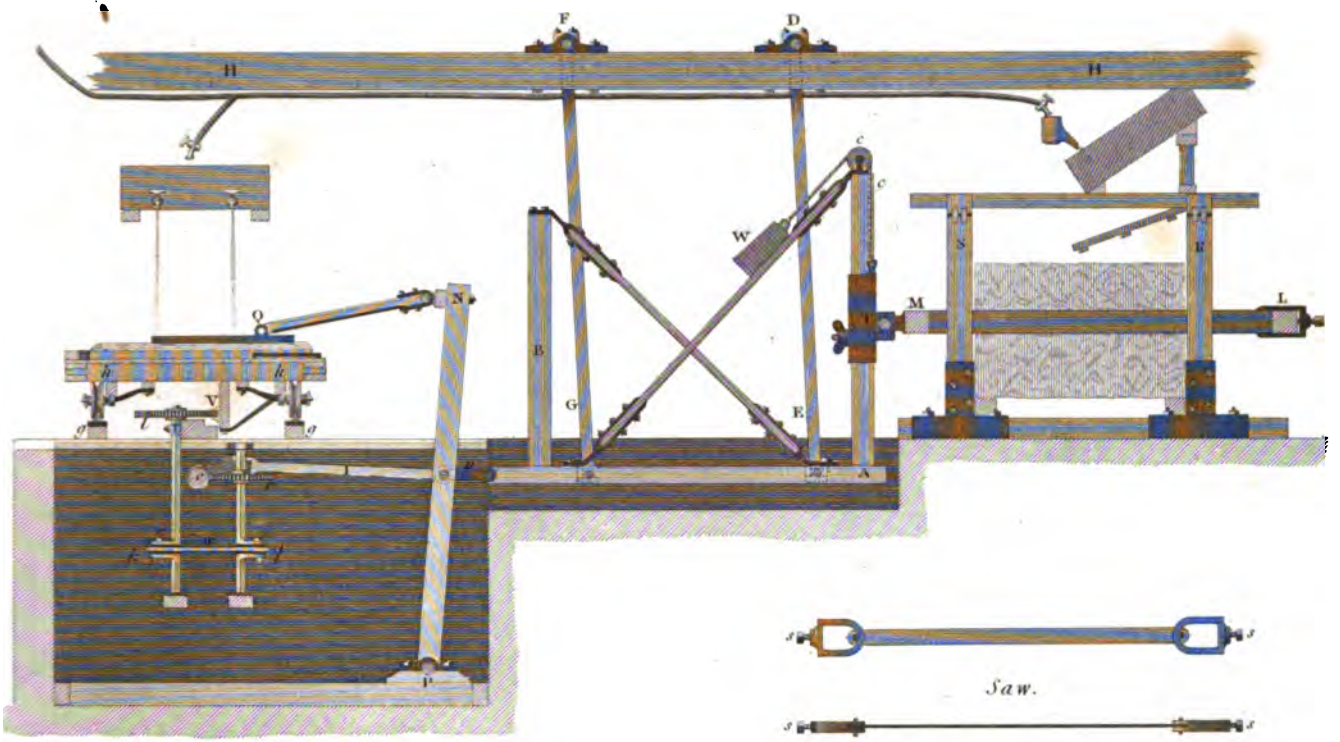
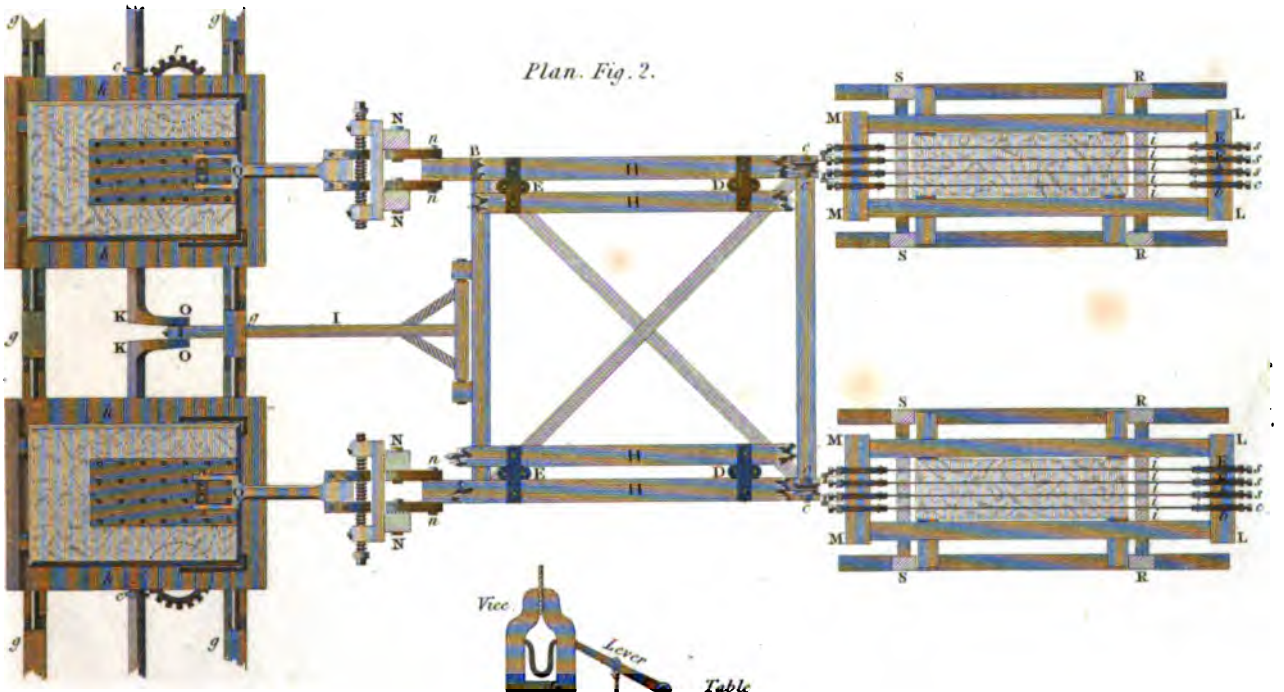
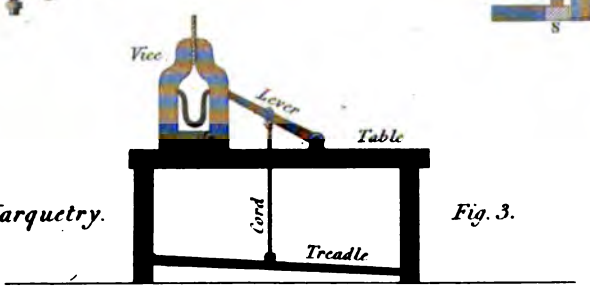
Elevation, Marble Mill, Fig. 1.



Plan. Fig. 2.





Marquetry. *Fig. 3.*

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Engraved by W. Lowry.

MISCELLANY.

PERSPECTIVE MACHINES

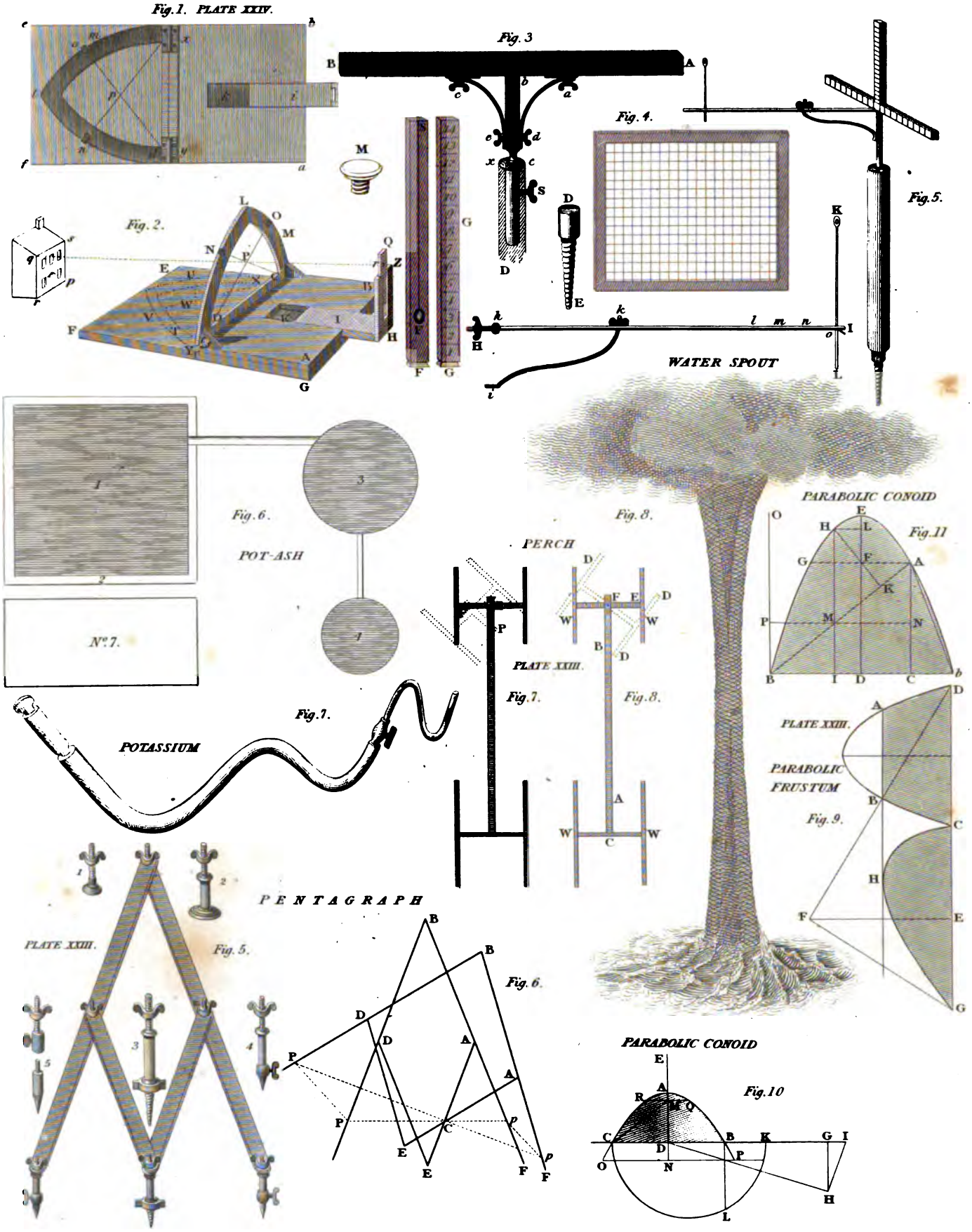

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Fig. 1. ÆOLUS'S Harp.

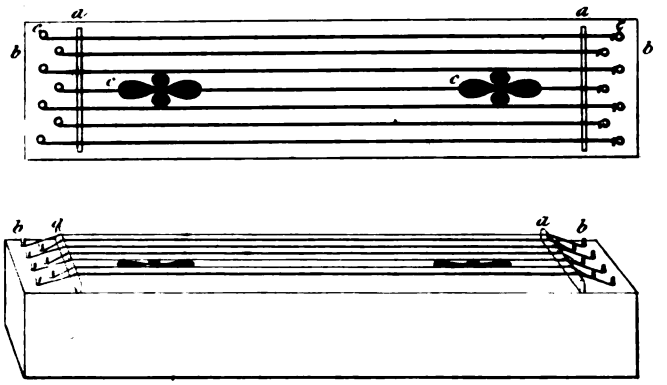


Fig. 2. CROWTH.

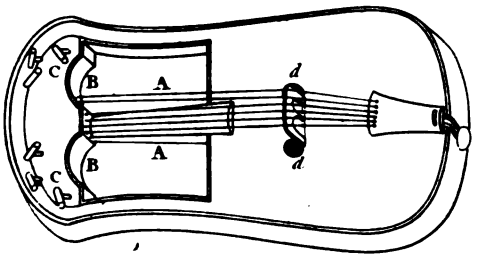


Fig. 3. FILTRATION.

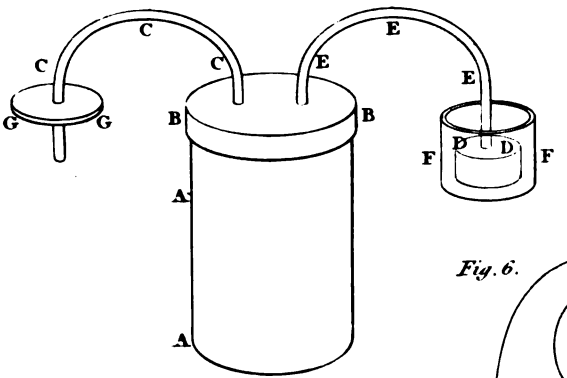


Fig. 4. Marine TRUMPET.

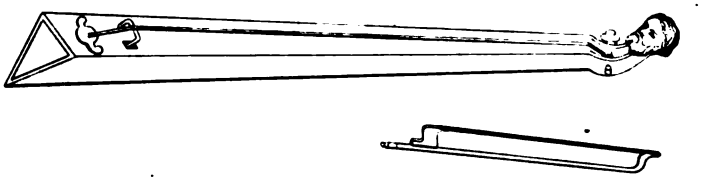
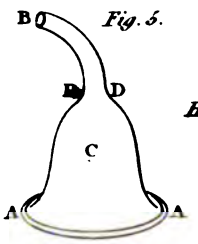
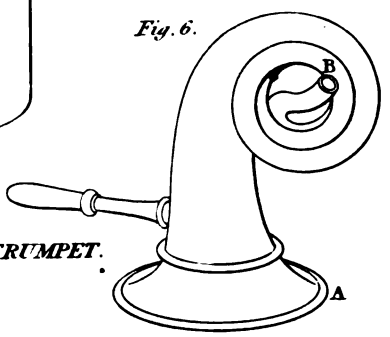


Fig. 5.



Hearing TRUMPET.

Fig. 6.



Speaking TRUMPET.

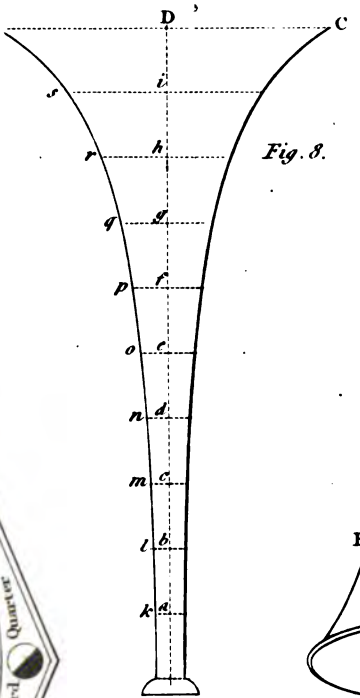


Fig. 8.

Fig. 7.

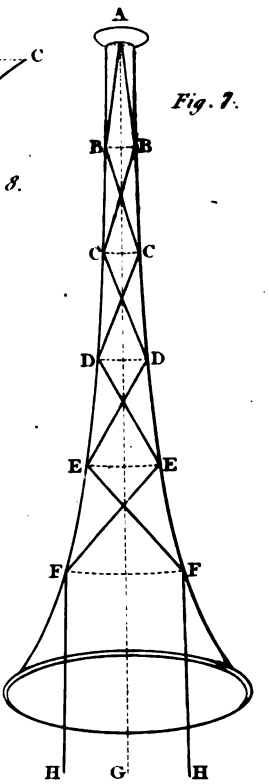
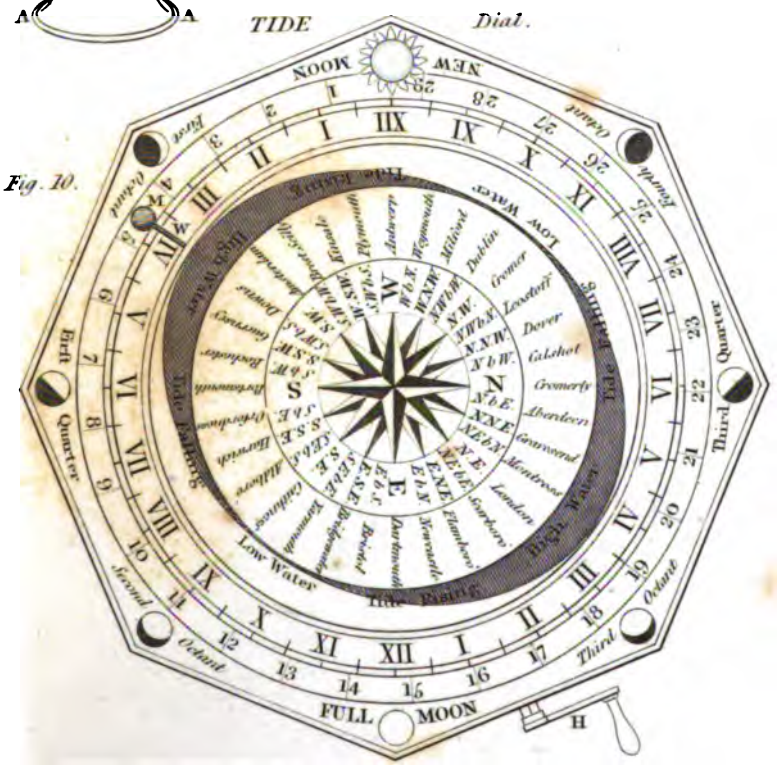


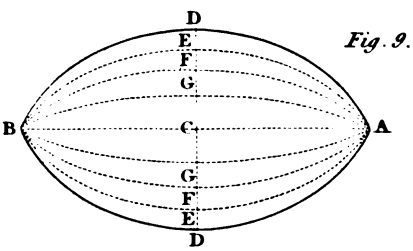
Fig. 10.

TIDE Dial.



VOICE

Fig. 9.



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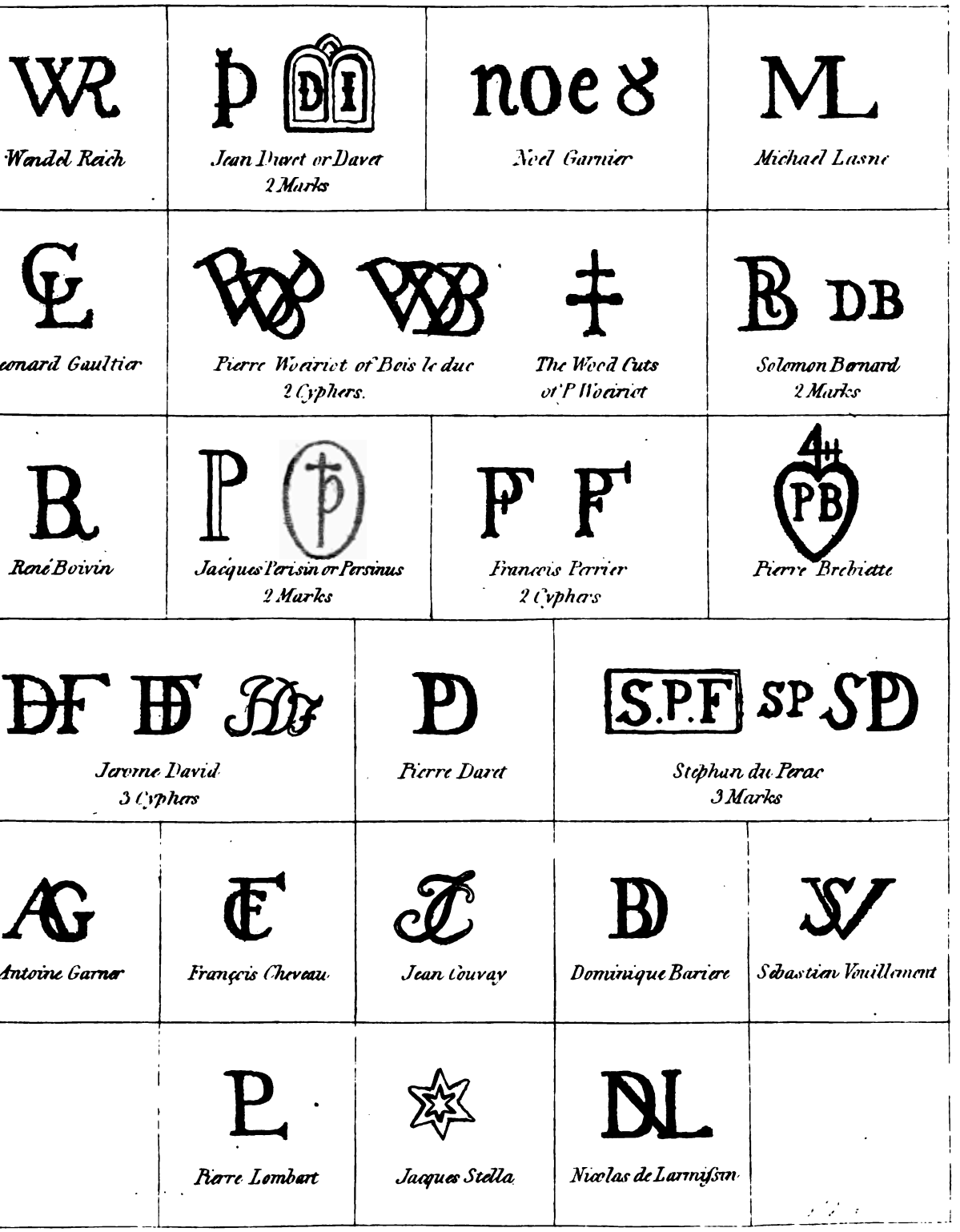

Published May 1st 1816 by Longman & Co

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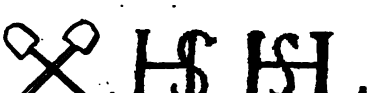
Plate 1

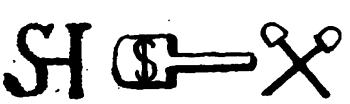
Martin Schoen

Bartholomew Schoen

Sandrart's Anonymous Print of 1455

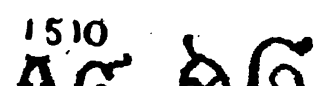


Hans Schaufflein Sen.r
3 Marks



Hans Schaufflein Jun.r
3 Marks

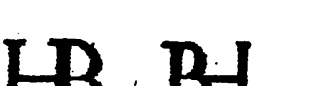
Martin Zagel
2 Marks



Albert Glockenton
2 Marks

Albert Altdorfer
2 Marks

Albert Durer
2 Marks



Hans Holbein
2 doubtful marks

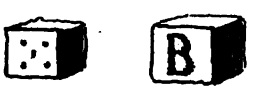
Sigismond Holbein

Lucas Cranach
5 Marks

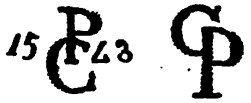
Lucas Kruger

Hans Sebald Beham.
his 1st Mark his 2nd Mark.

Burghmair, Balding & Bresang
of doubtful Authority



Bartholomew Beham
2 doubtful Marks



Gregory Penz
2 Marks

Henry Aldegrever

Hans Brosamer

Augustin Hirschvogel

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Plate II.

Published 1st Nov. 1810. by T. Longman & Co.

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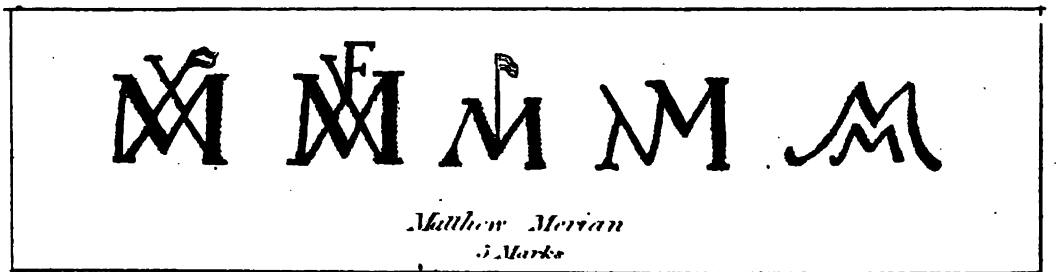
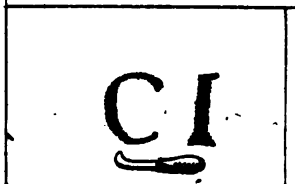
Plate III.



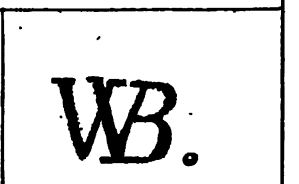
Matthew Merian
3 Marks



Christopher Jegher

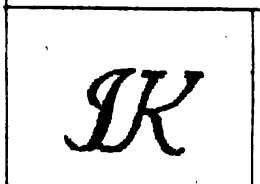
Wenceslaus Hollar

The mark used by Hollar at Prague



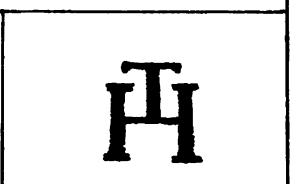
John William Baur

Gerard Lairesse
4 Ciphers

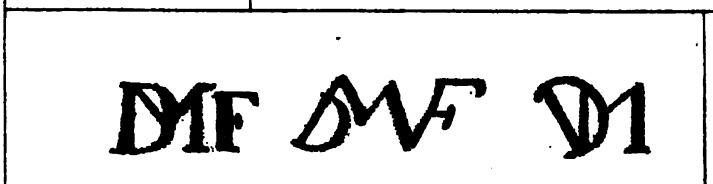


John Ulric Kraus

Andrea Meyer
2 Marks

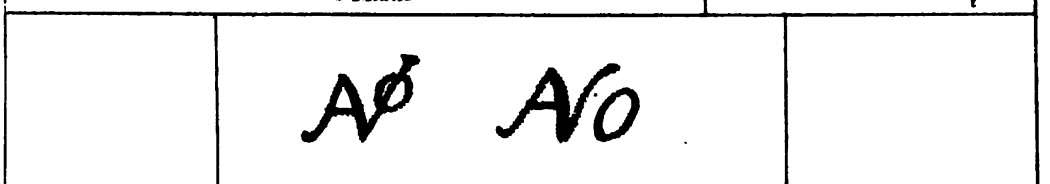


John James Thourneyson



Dirick Meyer
3 Marks

Rodolph Meyer



Adrian Van Ostade
2 Marks

J. L. fecit

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Published June 1st 1812. by T. Longman & Co. London.

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used by the Engravers of the LOW COUNTRIES.

Plate II.

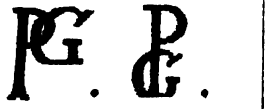
Simon Passe

Christopher van Sichem

Hans or John Bol

Cornelius van Sichem

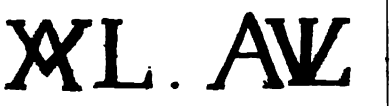
John Sadeler



Philip Galle
2 Marks

Cornelius Cort

Nicholas de Bruyn
2 Marks



Assuerus Londersel
2 Cyphers

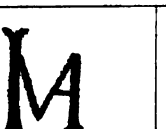
Jerome Wierix

Abraham de Bruyn
3 Marks

Zachary Dolendo

Paul Moreelse

Karl van Sichem



James Matham

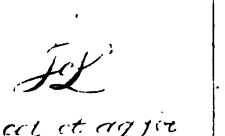
James de Ghein
the elder

John or Hans Saenredam
2 Cyphers

Bartholomew Dolendo
3 Marks

William Saenredam

Henry Hondius



Abraham Bloemart

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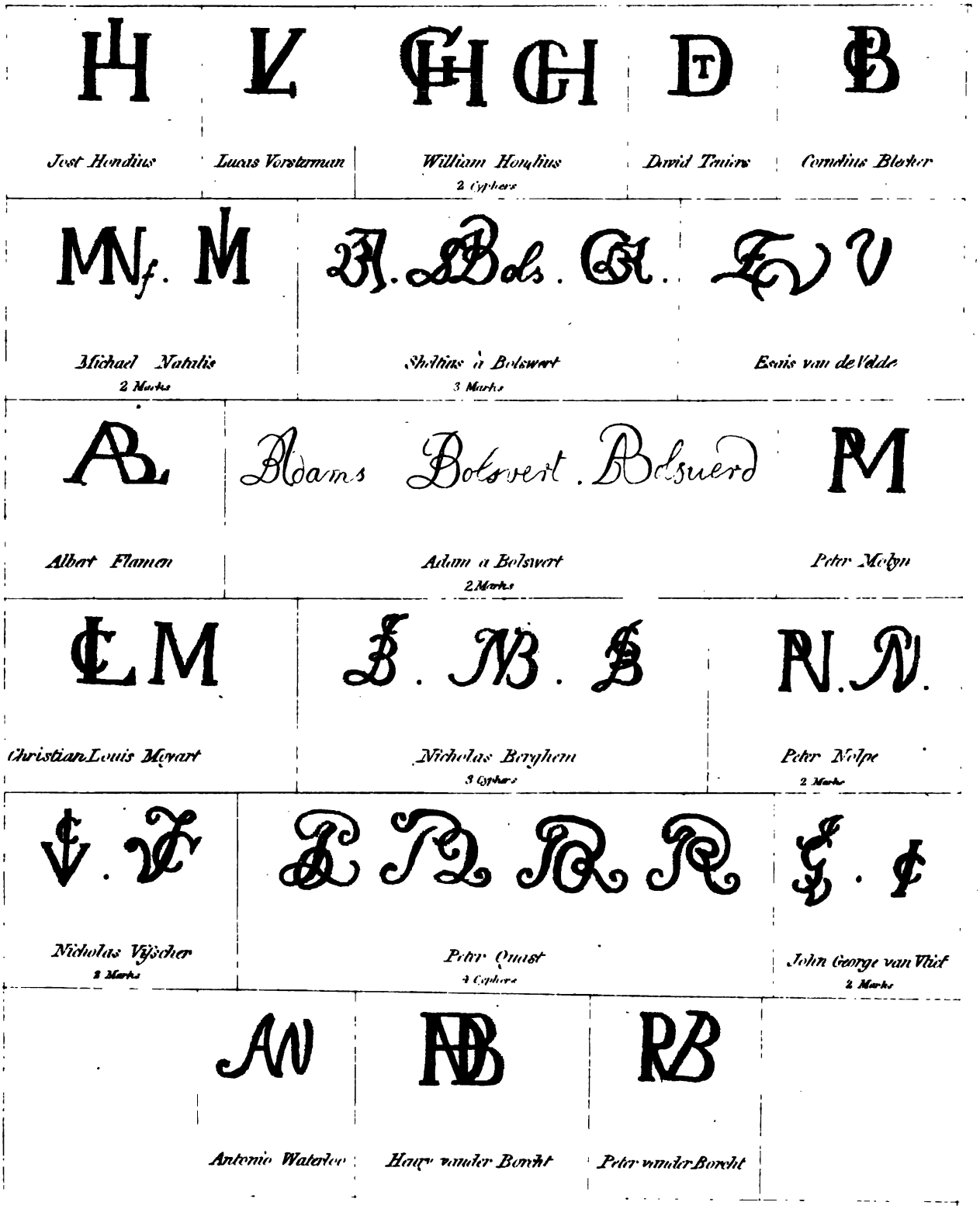
Plate III.



Jost Hondius

Lucas Vorsterman

William Honglius
2 Ciphers

David Teniers

Cornelius Bloter

Michael Natalis
2 Marks

Sheltius à Bolswert
3 Marks

Esaias van de Velde

Albert Flamen

Adam a Bolswert
2 Marks

Petr Molyn

Christian Louis Mayart

Nicholas Berghem
3 Ciphers

Petr Nolpe
2 Marks

Nicholas Vÿscher
2 Marks

Petr Quast
4 Ciphers

John George van Vliet
2 Marks

Antonio Waterloo

Henr vander Borcht

Petr vander Borcht

Pub.d April 6. 1812 by T. Longman & C.o

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Plate IV

Theodore van Kessel

Abraham Gewels

Herman van Swaneveldt

John de Bischop or Episcopius

Lewin Cruyl

Bartholomew Breenbergh

John van Somer

James van den Hayden

3 Marks

Robert van Audenaerde

A.F. Baryas

John van Hugtenburg

Peter van Bleek

William Buteuweg

John van den Bruggen

William de Leeuw

John von Londerseil

Herman Muller

3 Marks

Peter Serwouters

London Publ.d May 1 1812, by T. Longman & C.

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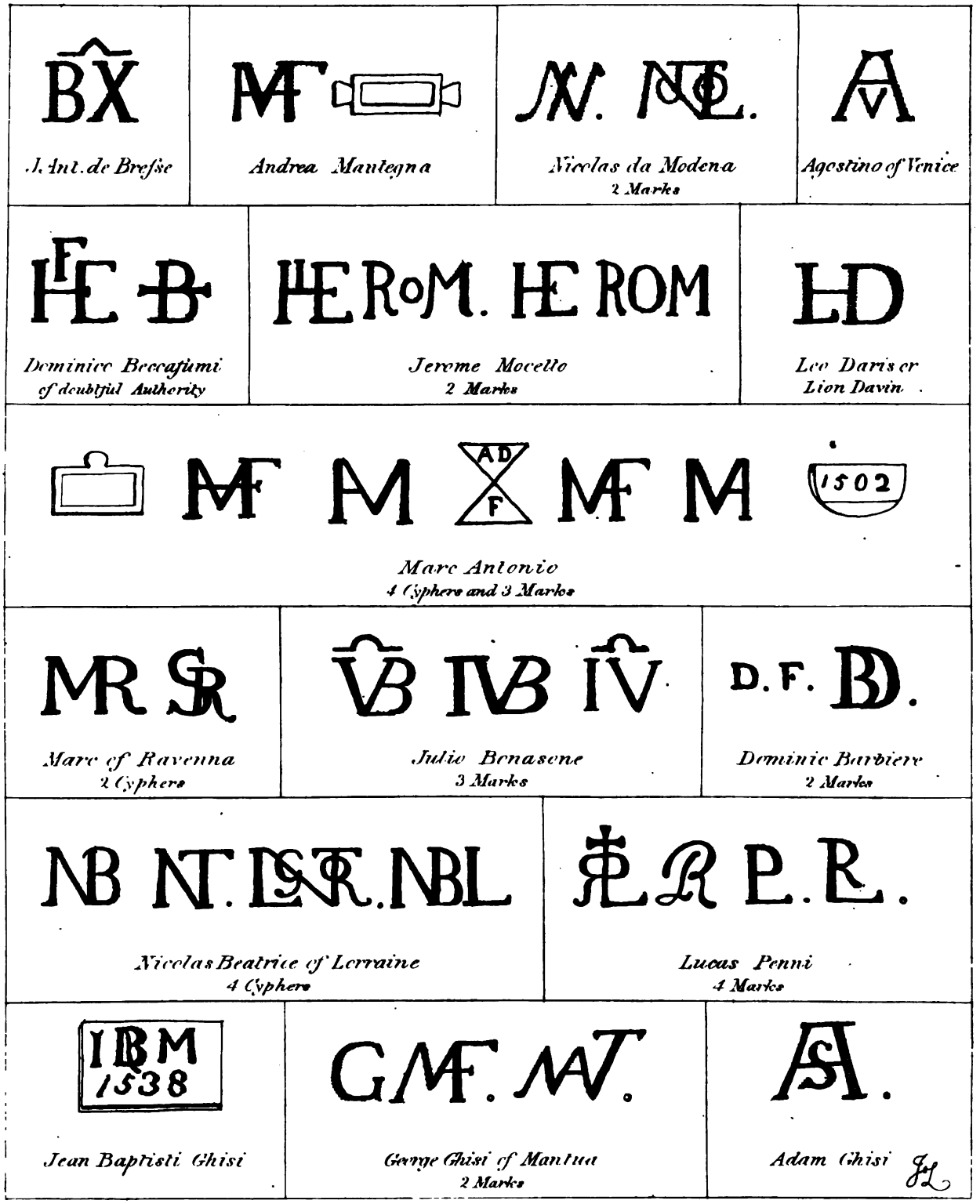
Plate. I.



J. Ant. de Breſse

Andrea Mantegna

Nicolas da Modena
2 Marks

Agostino of Venice

Dominico Beccafumi
of doubtful Authority

Jerome Mocetto
2 Marks

Leo Davis or
Lion Davin

Marc Antonio
4 Cyphers and 3 Marks

Marc of Ravenna
2 Cyphers

Julio Bonasone
3 Marks

Dominic Barbiere
2 Marks

Nicolas Beatrice of Lorraine
4 Cyphers

Lucas Penni
4 Marks

Jean Baptisti Ghisi

George Ghisi of Mantua
2 Marks

Adam Ghisi

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Plate II.

Beldrini

Martin Reta

1543

Antonio Fantuzzi
2 Cyphers

J.J. Caraglio

Antonio Salamanca
3 Marks

Gaspar ab Avibus
3 Cyphers

J. Baptista Cavaleris

Mario Kartaro

Jaques Palma

J Baptiste Pagi

Franceschini

Cherubino Alberti
2 Marks

in Mantua 1608 MDCV

Andrea Andreani
3 Marks

Jean Louis Valesio
2 Marks

Annibal Caracci

Antonio Tempesta
4 Marks

Odoard Fialetti

Louis Civoli
2 Marks

Francisco Villamena

Guido Reni
2 Marks

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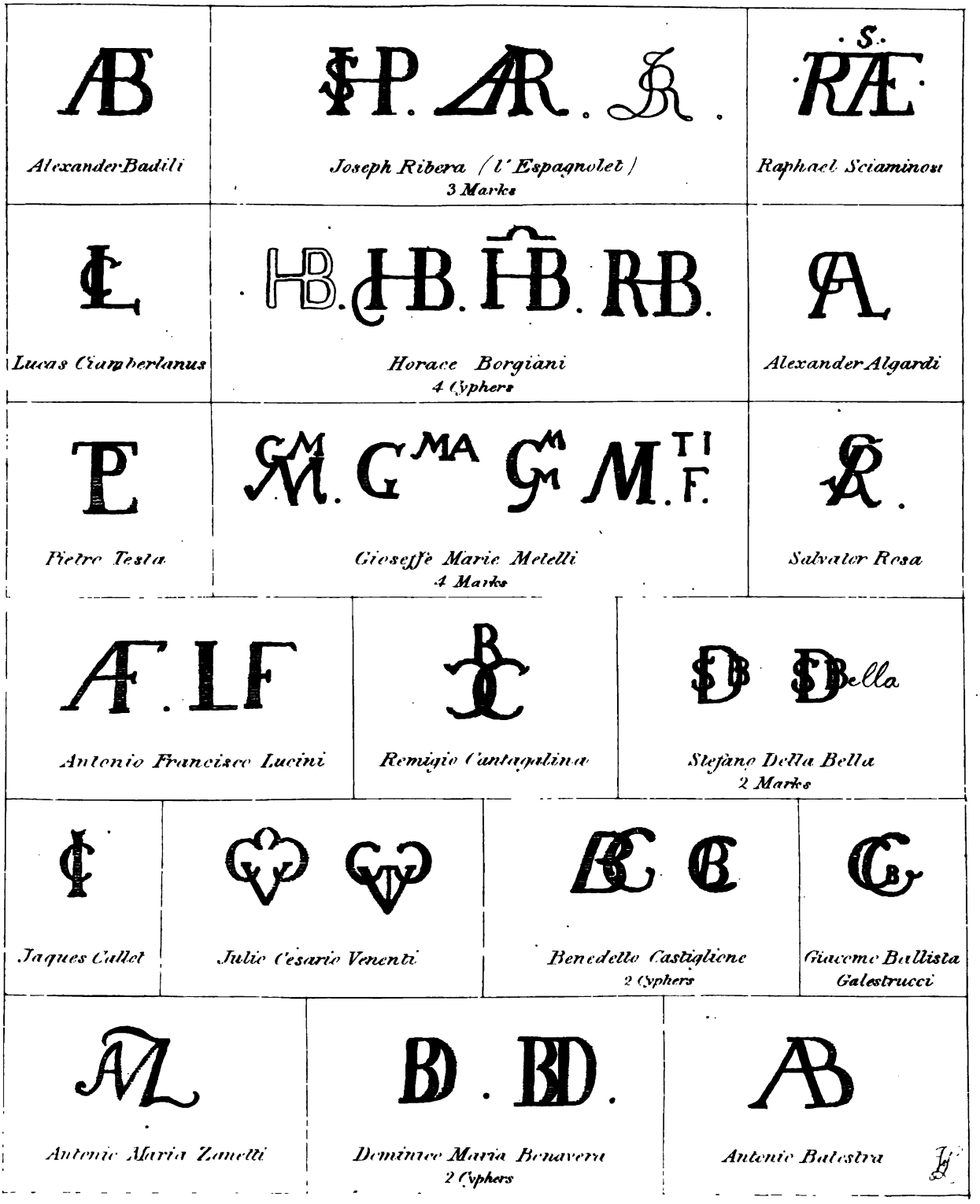
MONOGRAMS, &c.

used by the ITALIAN Engravers.

Plate III



Alexander Badili

Joseph Ribera (l'Espagnolet)
3 Marks

Raphael Sciaminosi

Lucas Camberlanus

Horace Borgiani
4 Cyphers

Alexander Algardi

Pietro Testa

Gioseffe Marie Metelli
4 Marks

Salvator Rosa

Antonio Francisco Lucini

Remigio Cantagalina

Stefano Della Bella
2 Marks

Jaques Callot

Julio Cesario Venenti

Benedetto Castiglione
2 Cyphers

Giacome Ballista Galestrucci

Antonio Maria Zanetti

Dominico Maria Benavera
2 Cyphers

Antonio Balestra

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MUSIC.

MODERN TIME-TABLE.

One Semibreve ..... Rests or characters for Silence....

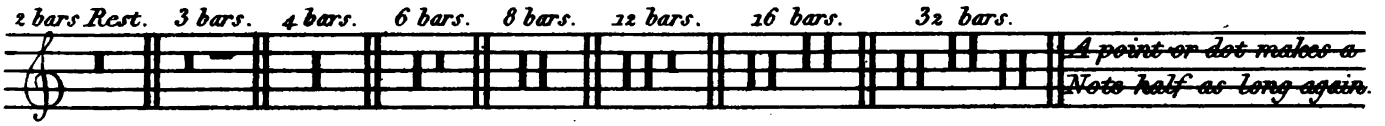
2 Minims.....

4 Crotchets.....

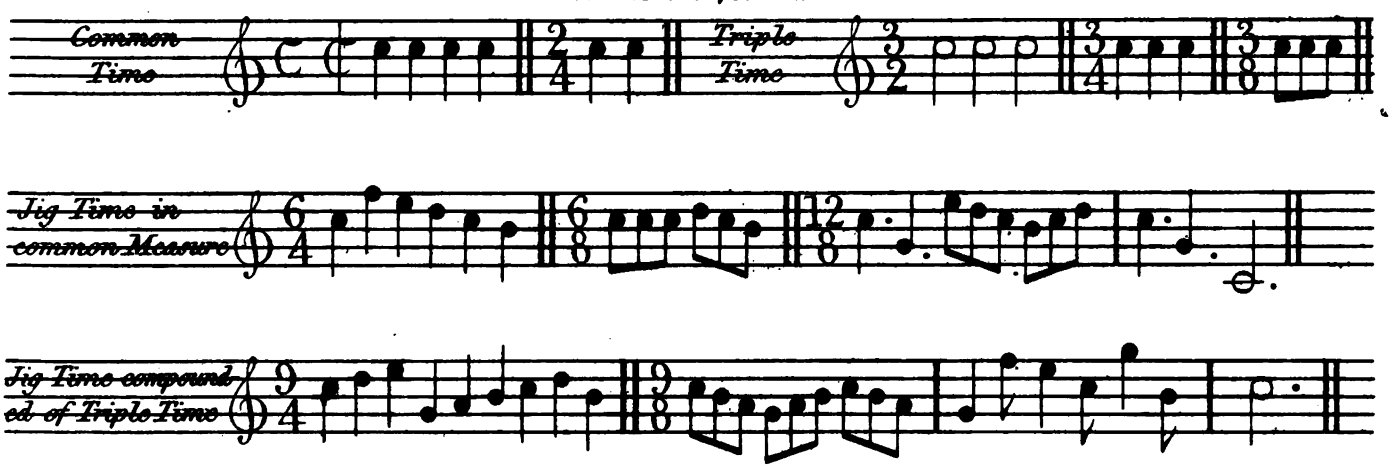
8 Quavers.....

16 Semiquavers.....

32 Demisemiquavers.....



Characters for Time.



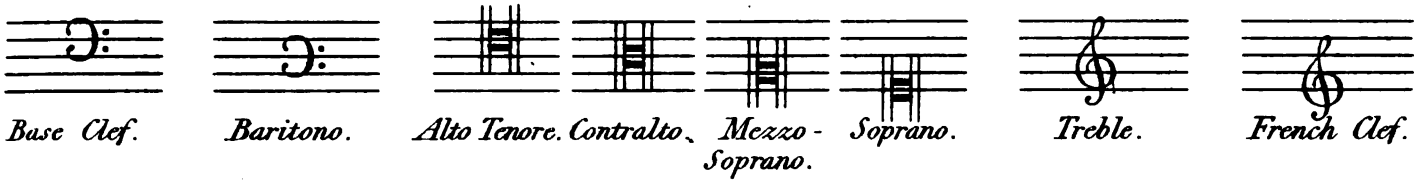
NB. In the characters for Time which used to be called the Moods or Modes, where Figures are used, the upper Figure tells how many Notes there are in each Bar, and the under Figure tells of what kind: $\frac{2}{4}$ *implies 2 Crotchets or Notes so called in the Time Table* $\frac{3}{2}$ *three Minims* $\frac{3}{4}$ *three of the 4 Crotchets in the Time Table that are equal to one Semibreve &c.*

Published as the Act directs Dec.r 1.st 1806. by Longman Hurst, Rees & Orme, Paternoster Row.

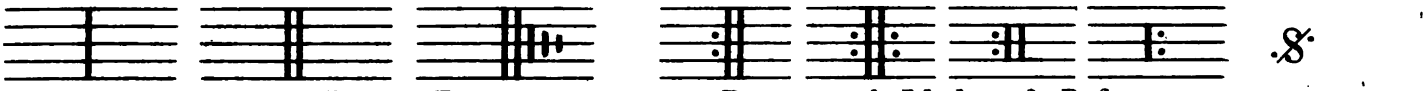
Jn.o Lee sculp.

MUSICAL CHARACTERS.

GRACES AND MARKS OF EXPRESSION.

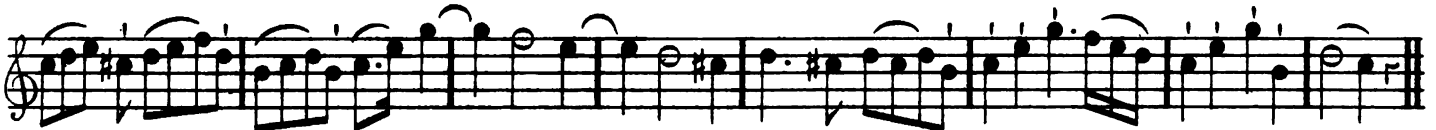


Base Clef. Baritono. Alto Tenore. Contralto. Mezzo-Soprano. Soprano. Treble. French Clef.

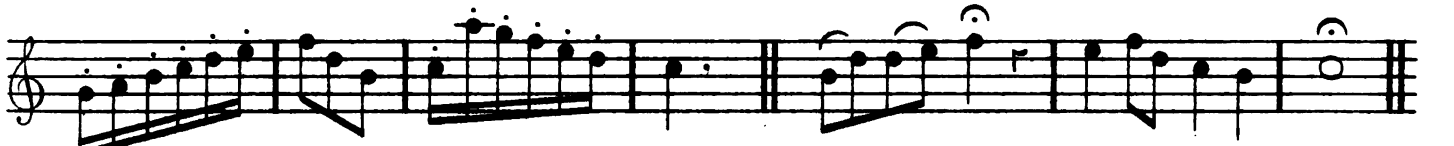


Single Bar. Double Bar. Termination. Repeats and Marks of Reference.

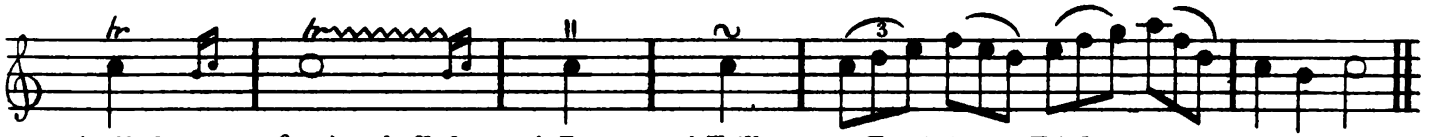
A Flat, ♭. Sharp, ♯. Double Sharp, 𝄪. Natural, ♮. Point or Dot, . Double Dot, ..



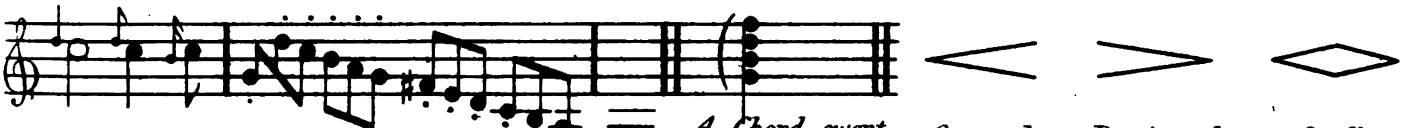
Slur. Ligatures or binding Notes. Accented or Staccato.



Spizzato with the vibration of one Bow. A Pause and final Mark of a Movement.

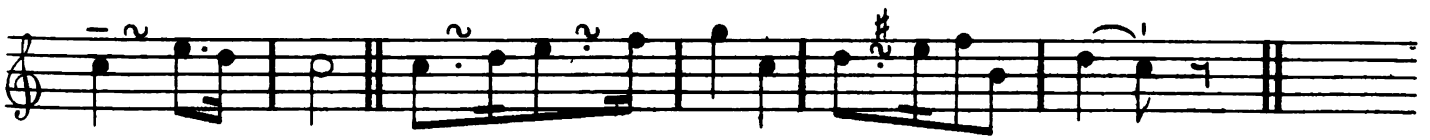


A Shake. Continued Shake. A Beat. A Trill. Terzini, or Triplets.



Appoggiature. The same as Spizzato. A Chord swept or Arpeggiod. Crescendo. Deminuendo. Swell.

A Messa di voce. *sf.* Sforzando. *rf.* Rinforza. *f.* Forte. *ff.* Fortiſsimo. *p.* Piano. *pp.* Pianiſsimo.



A Trill on the second part of a Note instead of a shake at the beginning. A Trill, turned from a Sharp.

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Jno Lee sculp

MUSIC.

ARPEGGIO.

1 *Common Arpeggio*

2

3 Em. Bach

4

5

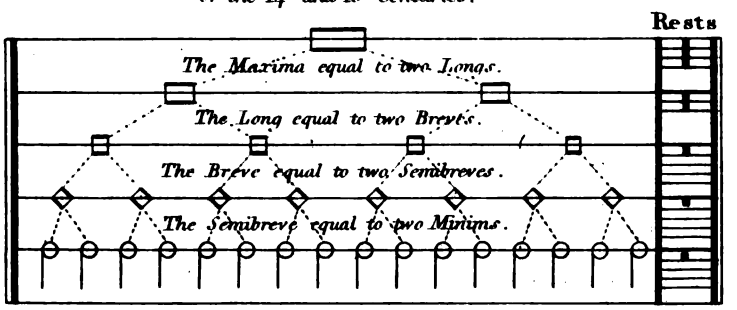
6

7

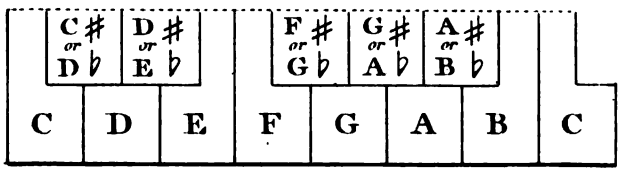
8

9

Ancient Musical Characters, of the 14th and 15th Centuries.



Arrangement of the Set of Keys, on Key'd Instruments.



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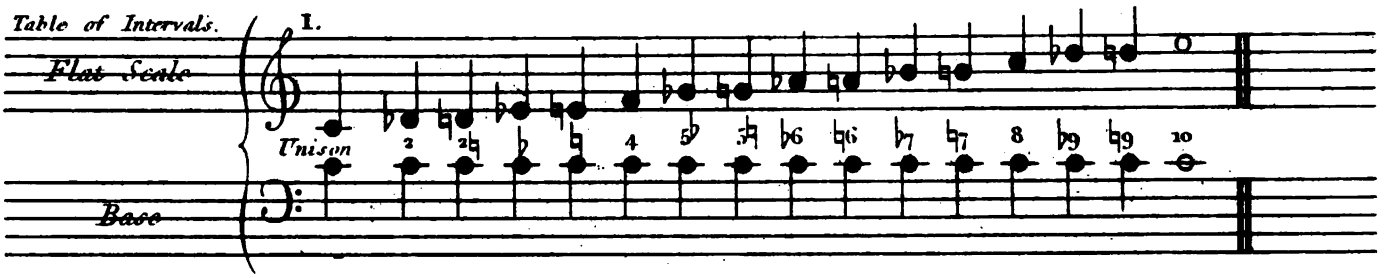
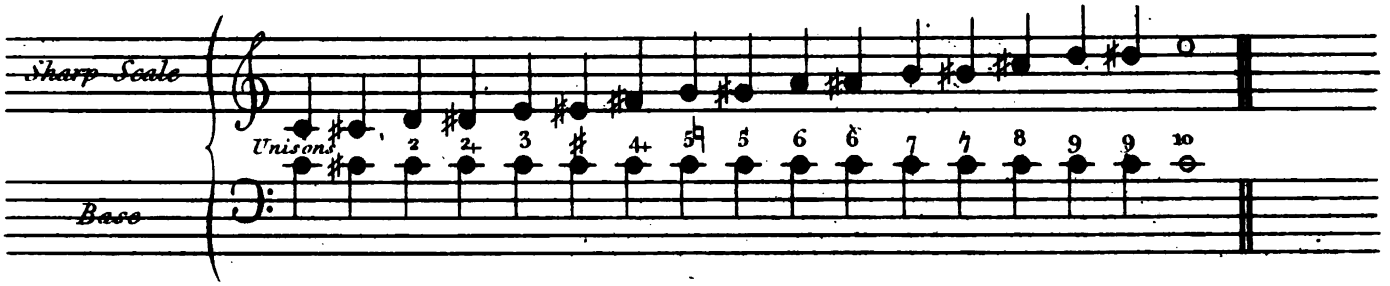
Engraved by Wilson Lowry.

THOROUGH BASE, OR ACCOMPANIMENT.

Table of Intervals.

I.





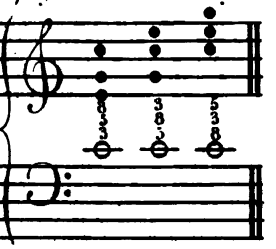
II. *Semitones in each Interval.*

a Minor or flat	2ª. *is one semitone or half-note above the base.*	
a Major or whole	2ª. *is two semitones above the base.*	
a Minor or flat	3ª.	3
a Major or sharp	3ª.	+ 4
a	4th.	5
a Tritonus or sharp	4th.	6
a	5th.	+ 7
a Minor or flat	6th.	8
a Major	6th.	9
an extreme sharp	6th.	10
a flat	♭7th.	10
a Major or sharp	7th.	11
an Octave or	8th.	+ 12
a flat	♭9th.	13
a Major or sharp	9th.	14

N.B. The figures to which a+ is prefixed are those which compose the 3ª. 5th. & 8th. or common chord Major.

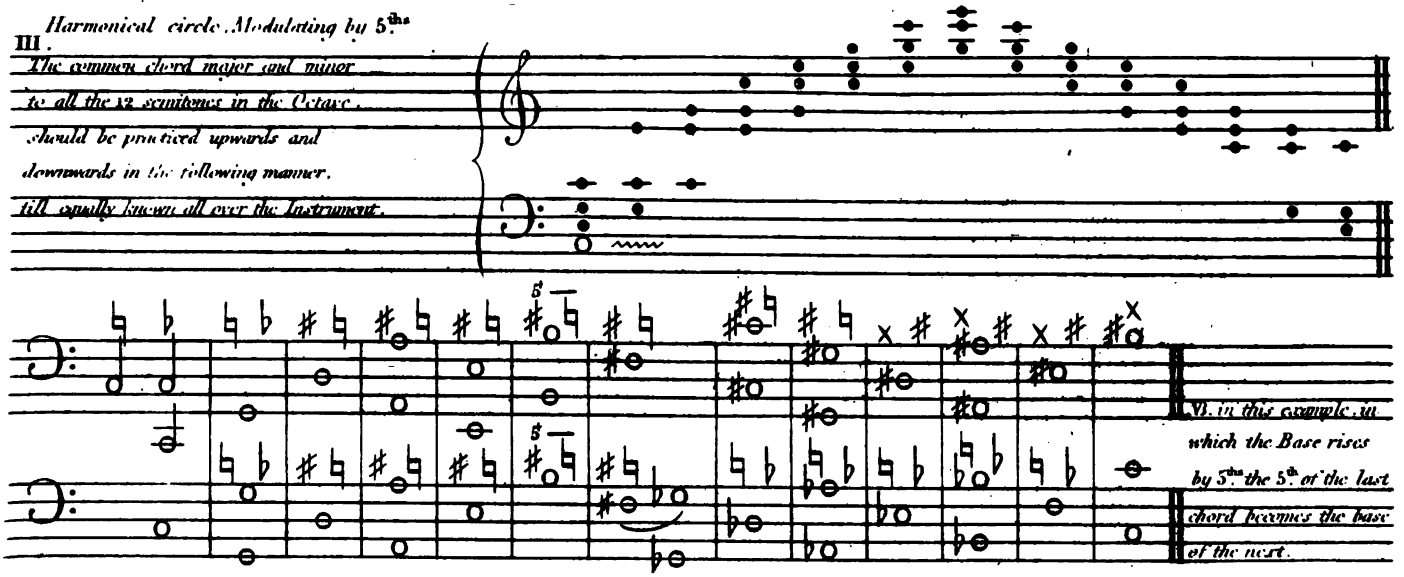
None but integers are used in figuring a base, as the 10th. is but the octave of the 3ª. the 11th. or the 4th. the 12th. of the 5th. &c.

A common or perfect Chord is composed of the $\frac{8}{3}$ *above the base & may be played three several ways.*



III. *Harmonical circle. Modulating by 5ths*

The common chord major and minor to all the 12 semitones in the Octave, should be practiced upwards and downwards in the following manner, till equally known all over the Instrument.

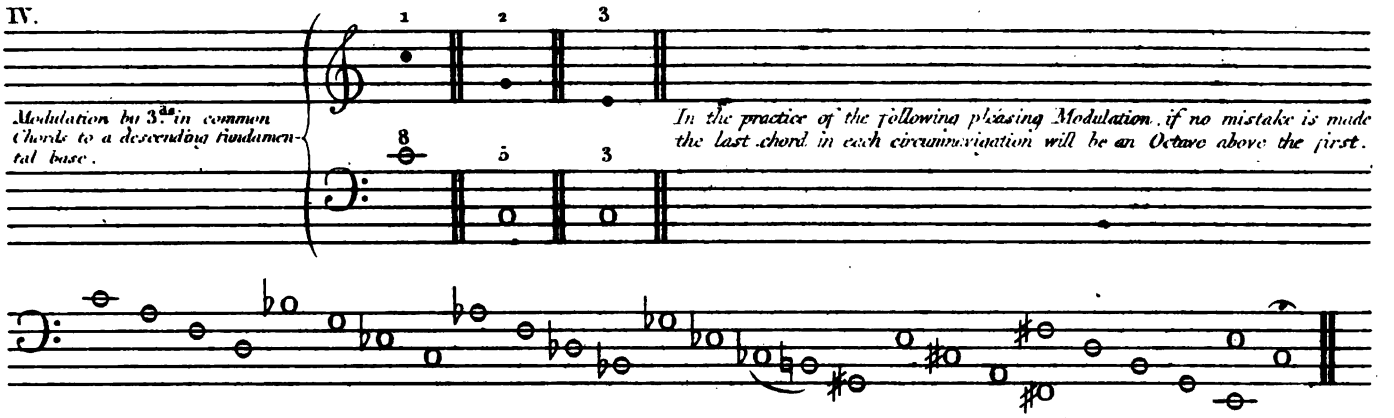


N.B. in this example in which the Base rises by 5ths the 5th. of the last chord becomes the base of the next.

MUSIC.

THOROUGH BASE.

IV.

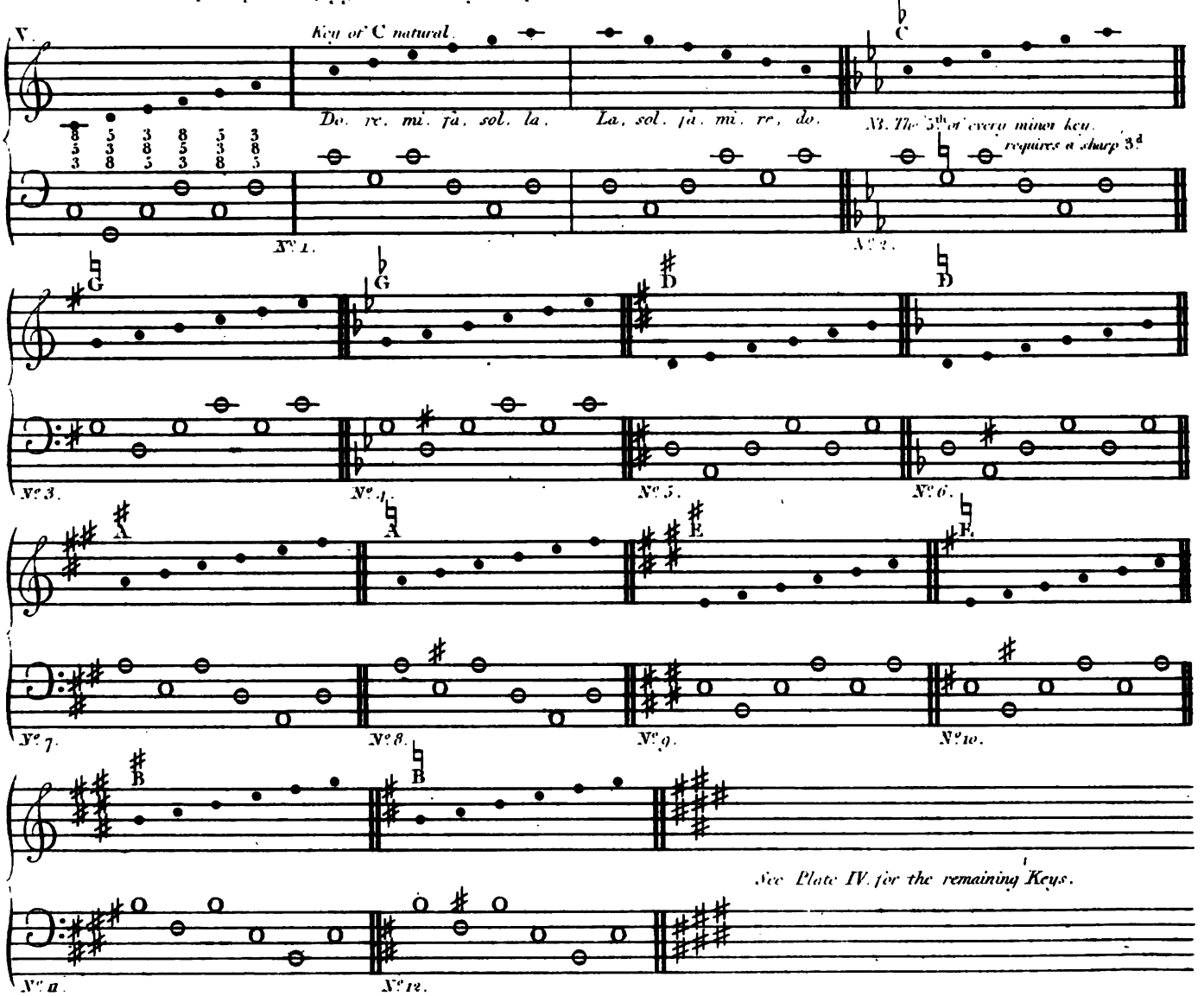


Modulation by 3.ds in common Chords to a descending fundamental base.

In the practice of the following pleasing Modulation, if no mistake is made the last chord in each circumnavigation will be an Octave above the first.

Further exercise of common chords in accompanying the Hexachords in all the keys major and minor to their fundamental bases. In the practice of which dots are placed on the notes in the treble that are to be played with the little finger: and though only the first of the Hexachords is written backwards, each of them is intended to be practiced backwards as well as forwards. Italian students in singing are long confined to the Hexachords in beginning to Solfeggiar; but chiefly in keys best in tune, as C.F.D.G.

V.



See Plate IV. for the remaining Keys.

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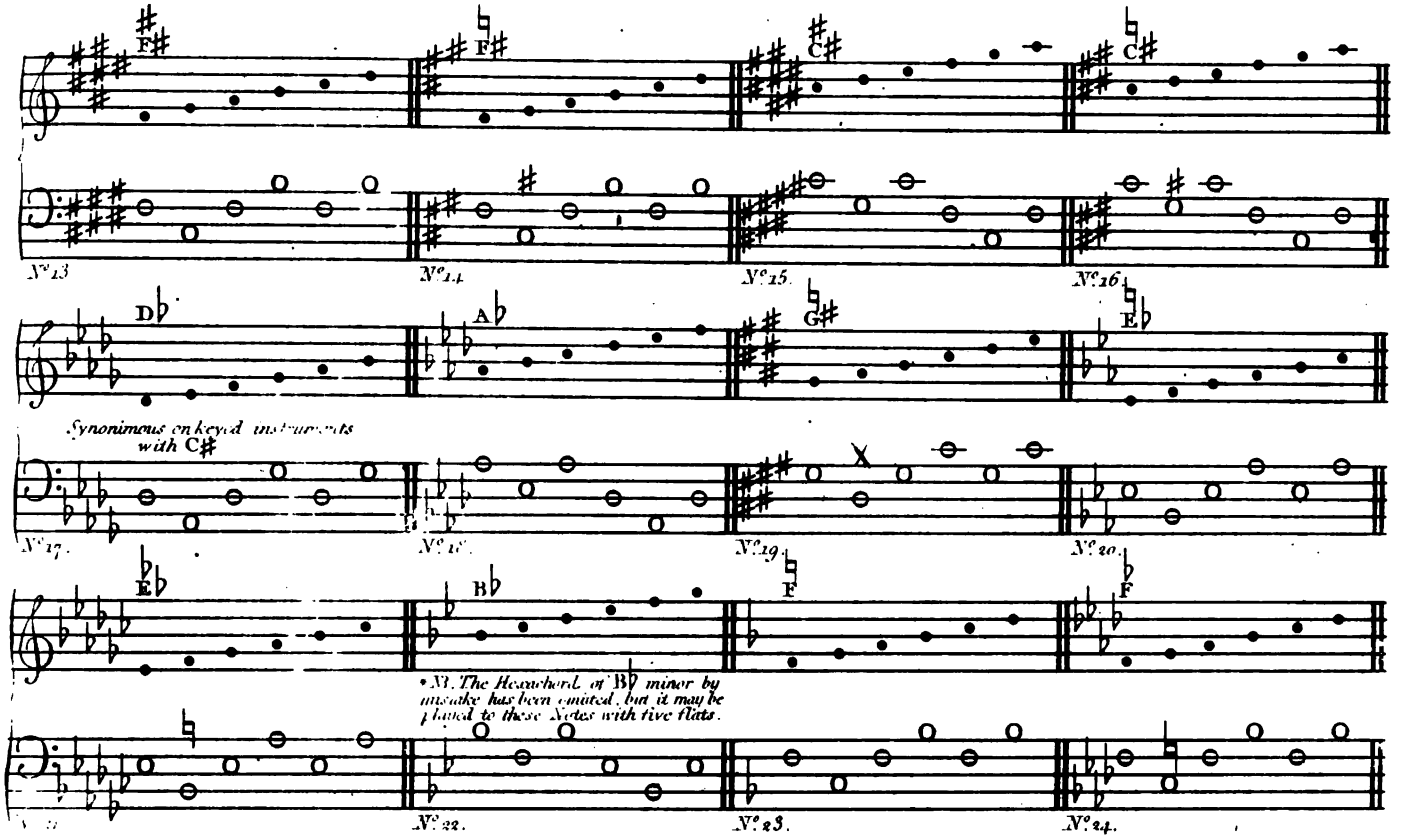
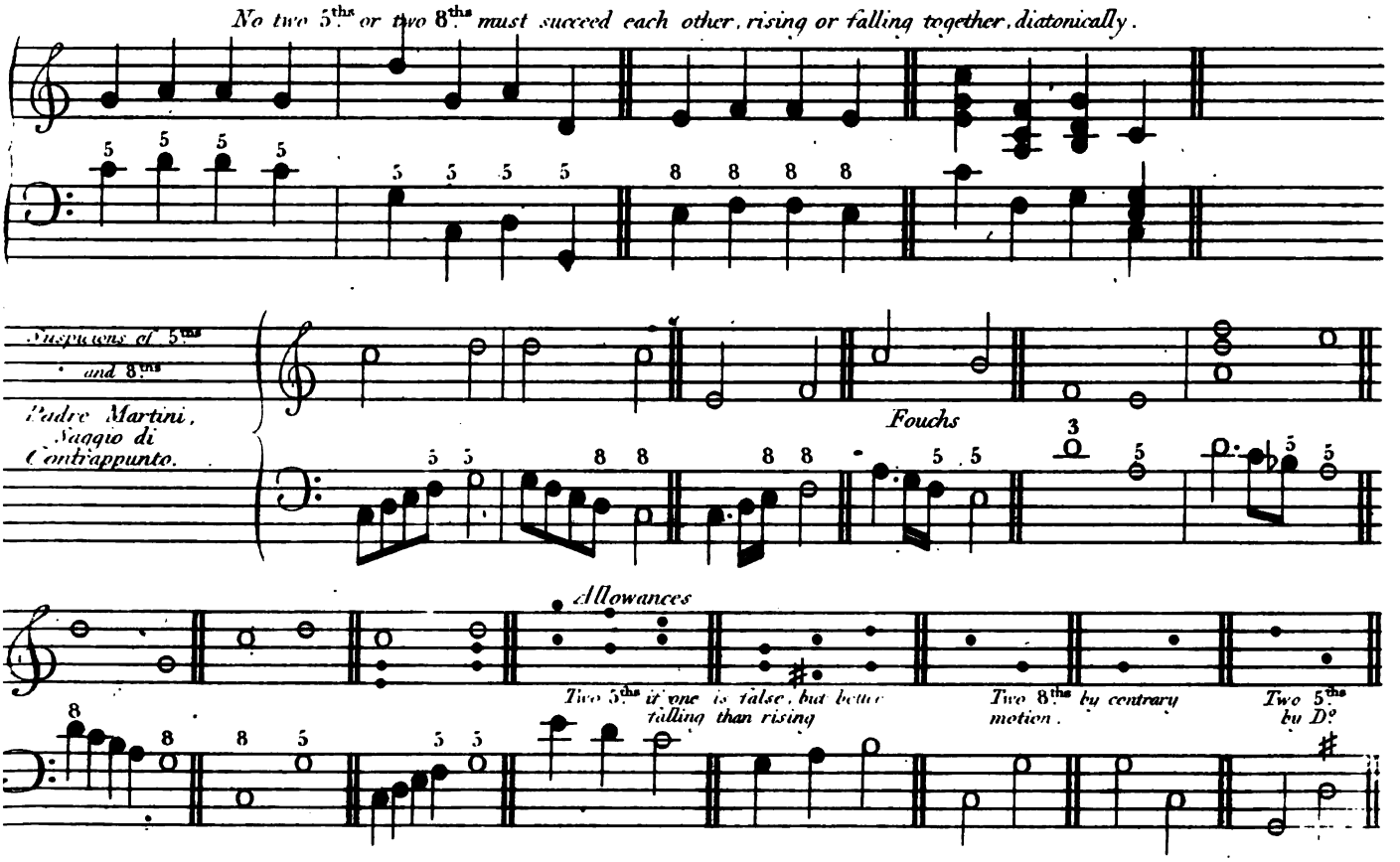
THOROUGH BASE.



DISSALLOWANCES IN THOROUGH BASE.

No two 5ths or two 8ths must succeed each other, rising or falling together, diatonically.



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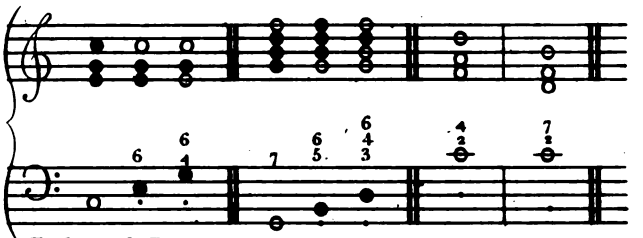
THOROUGH BASE.

The 3d. 5th & 8th singly or together imply the COMMON CHORD.

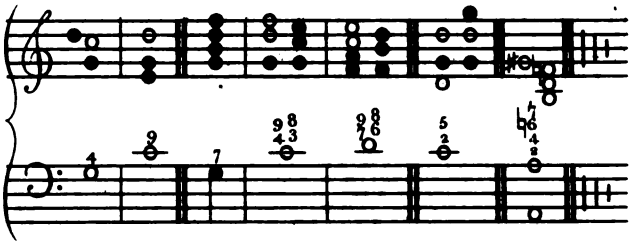
The Chord of the 6th 8 6	is common Chord to the 3d below the Base.
6 4	Ditto, to the 5th below.
7	is added to the Common Chord.
6 5	Chord of the 7th to the 3d below the Base.
6 4 4 3 3	Ditto to the 5th below.
4 2	Common Chord to the Note above the Base.
2 7	Ditto to the Note below.
4	taken instead of the 3d.
9	instead of the 8th.
9 4	are Sounds of the preceding Chord and always in the Hand.
9 7	Ditto Accompanied by the 5 3
5 2	Accompanied by the Octave of the 2d or of the 5th.
7 6 4 2	a new combination.

In general the Use of Figures in Accompaniment, is only to express such Sounds as differ from the COMMON CHORD.

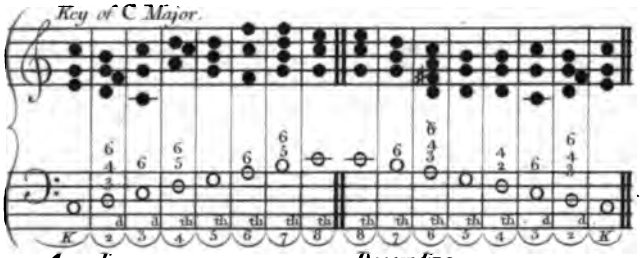
Example in Notes.

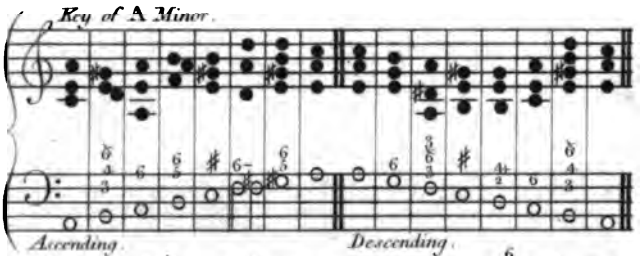


Fundamental Base.

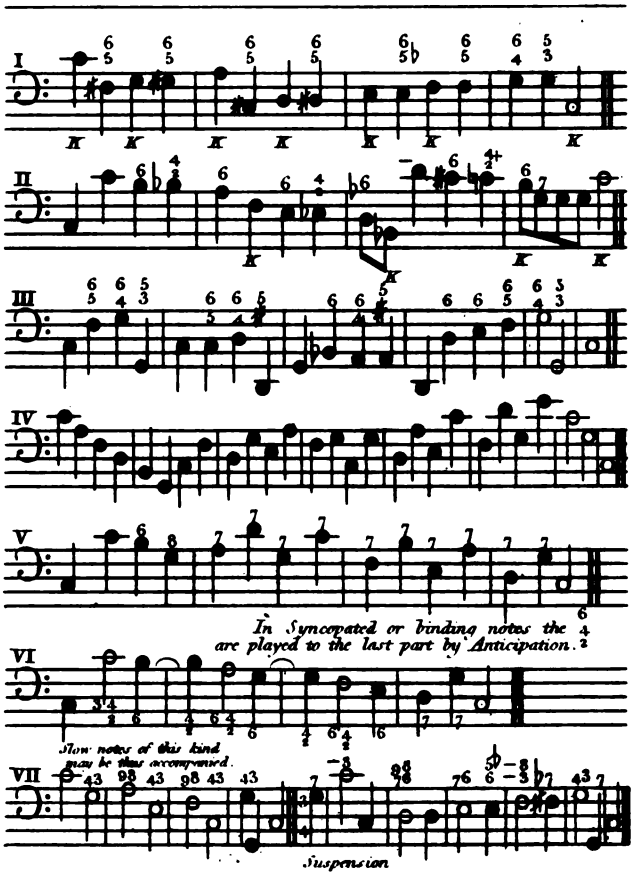


La Regle de l'Octave, or a rule for accompanying each sound of the Musical Scale, without figures, ascending and descending.





1. *An Accidental ♯ note in the base is accompanied by the 5 & changes the Key generally, to the half-note above such sharp.*
2. *An Accidental flat note is generally accompanied by a 4 2 & changes the Key to the 4th below such flat.*
3. *To the 5th of a Key if repeated at a close, two Chords are generally played 6 5 4 3 & sometimes the 7th with the Common Chord.*
4. *When the base moves per saltum a 3d 4th 5th or 6th common Chords will do.*
5. *When the base rises a 4th & falls a 5th alternately & the contrary, each note may be accompanied by the chord of the 7th.*



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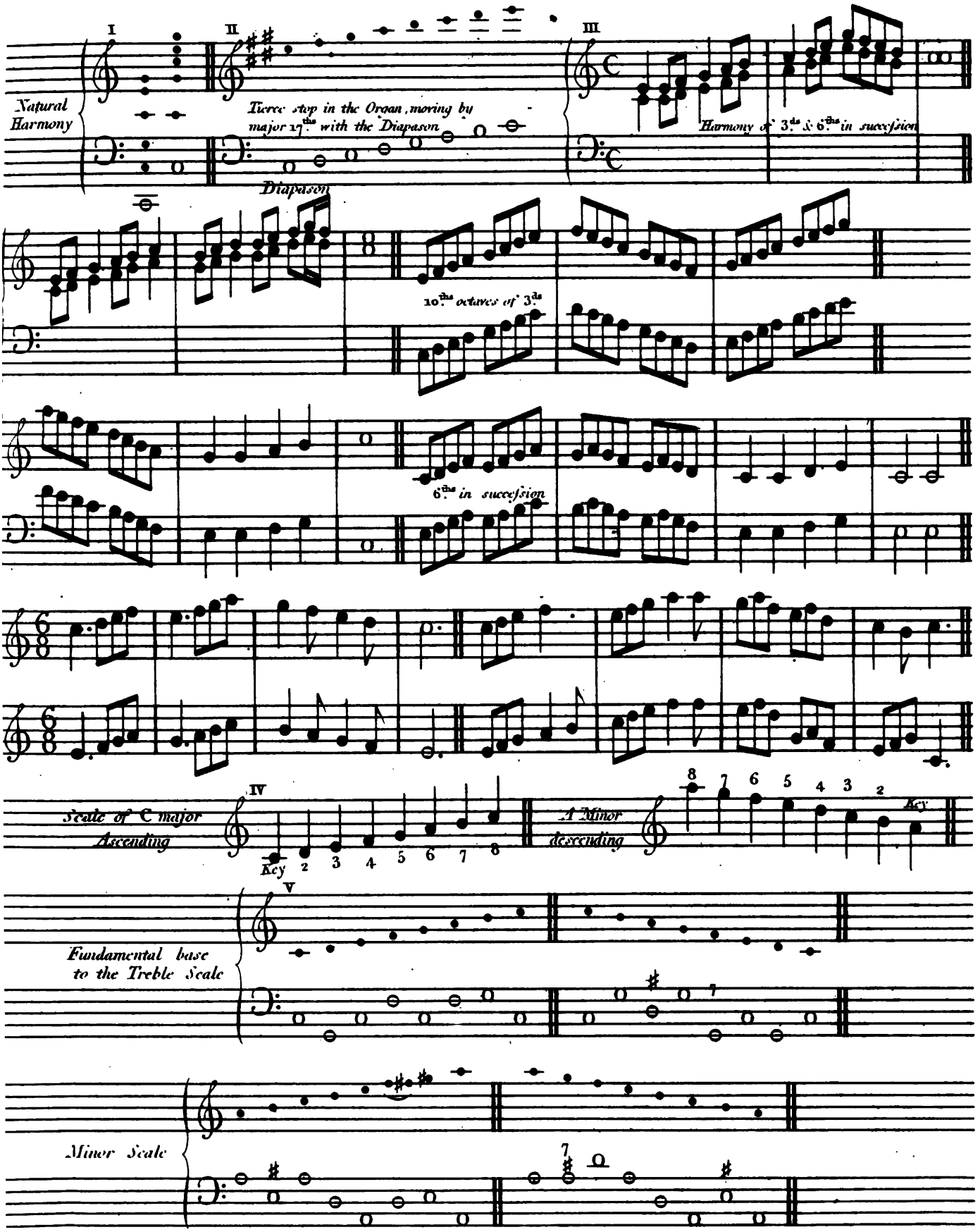
Jn.o Lee sculp.

COUNTERPOINT.



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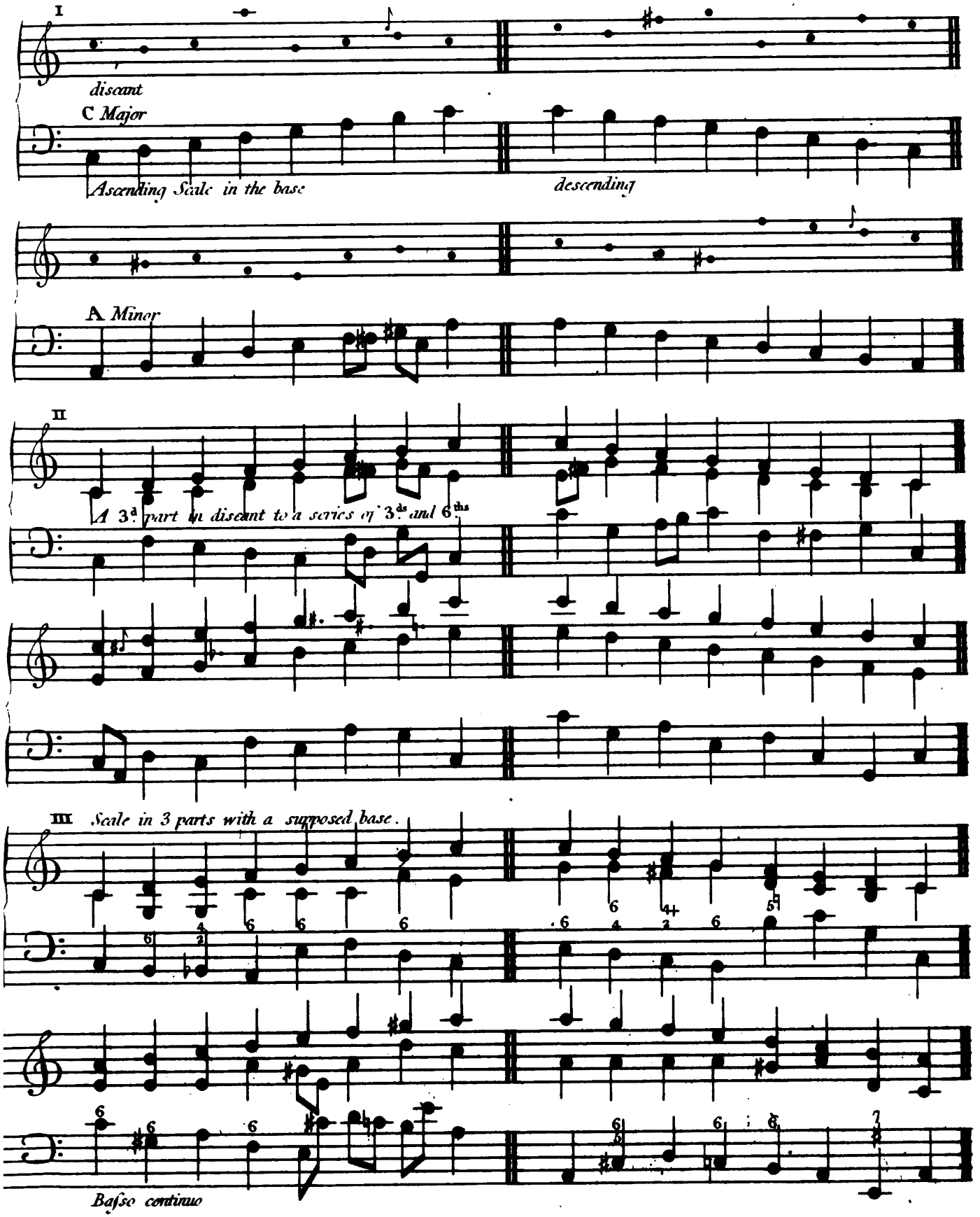
Jn.o Lee sculp

MUSIC.

COUNTERPOINT.



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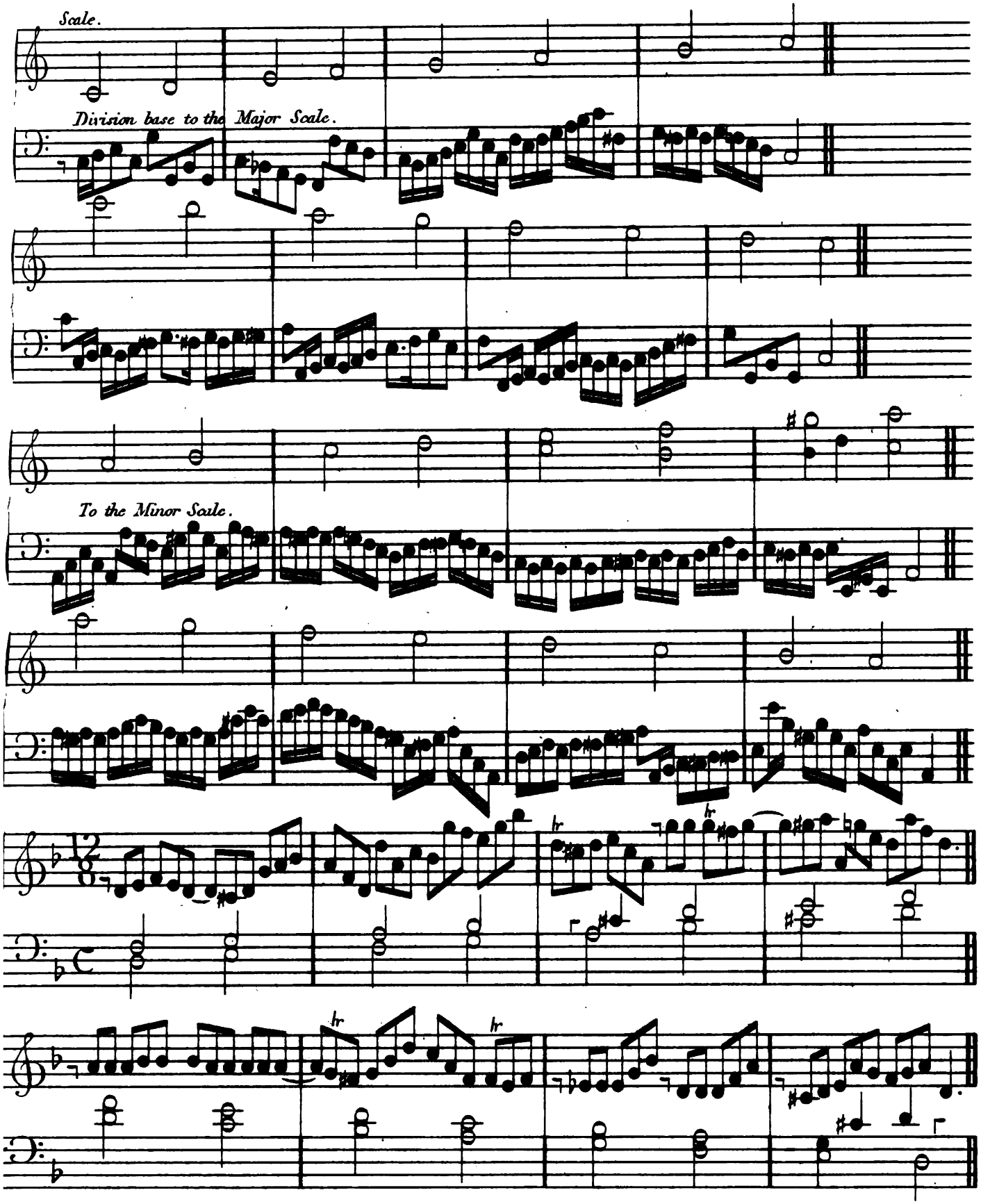
MUSIC.

COUNTERPOINT.



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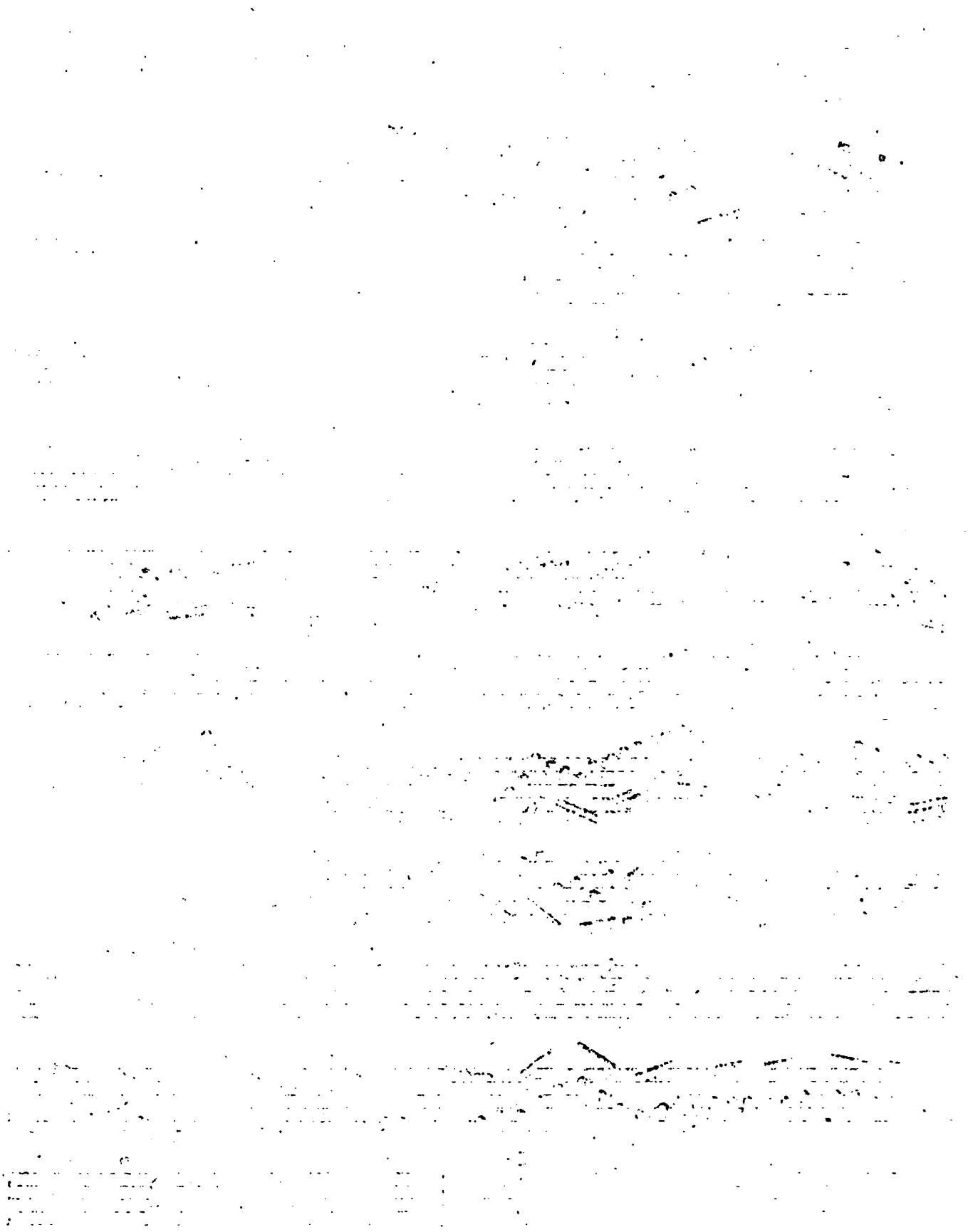
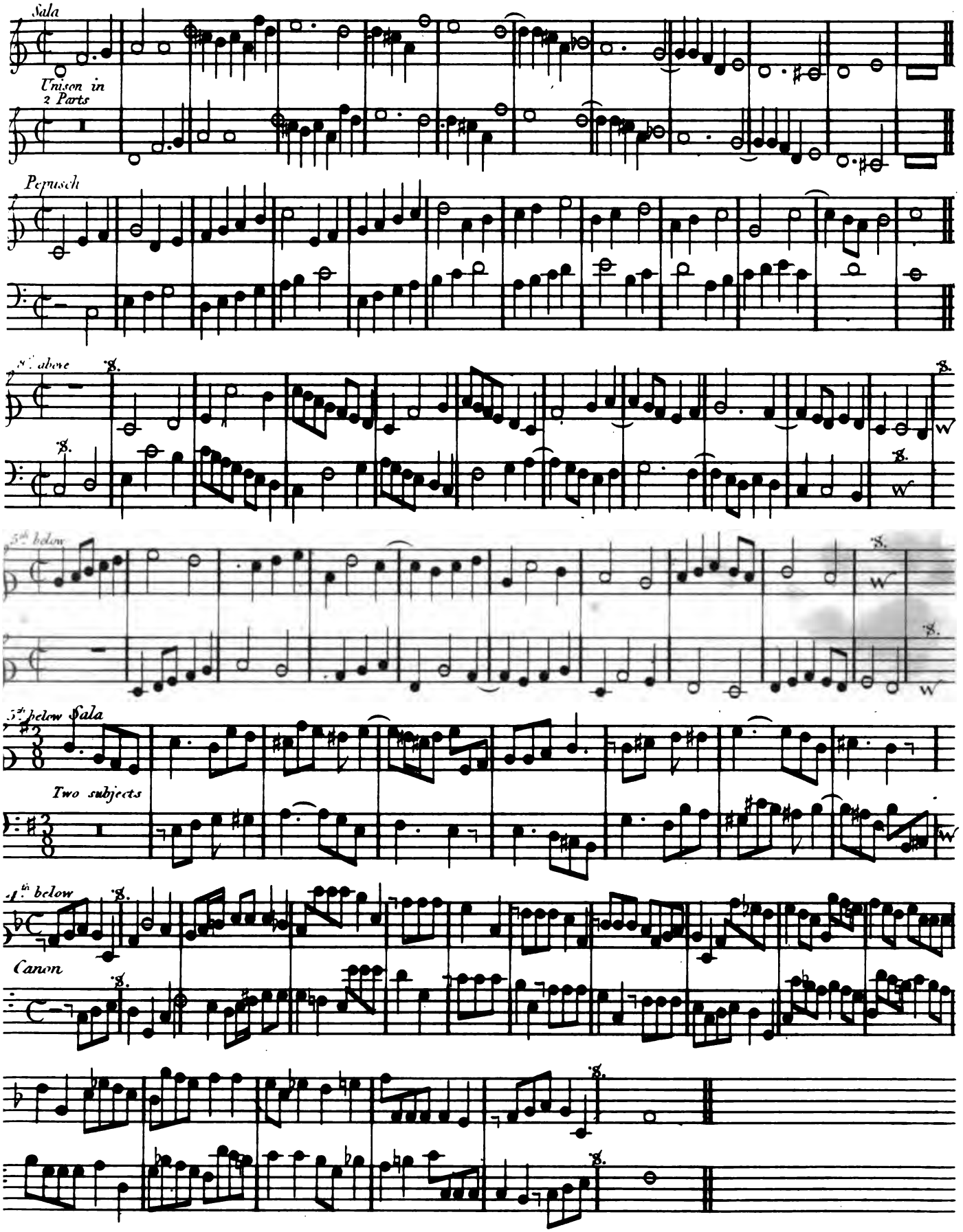


MUSIC.

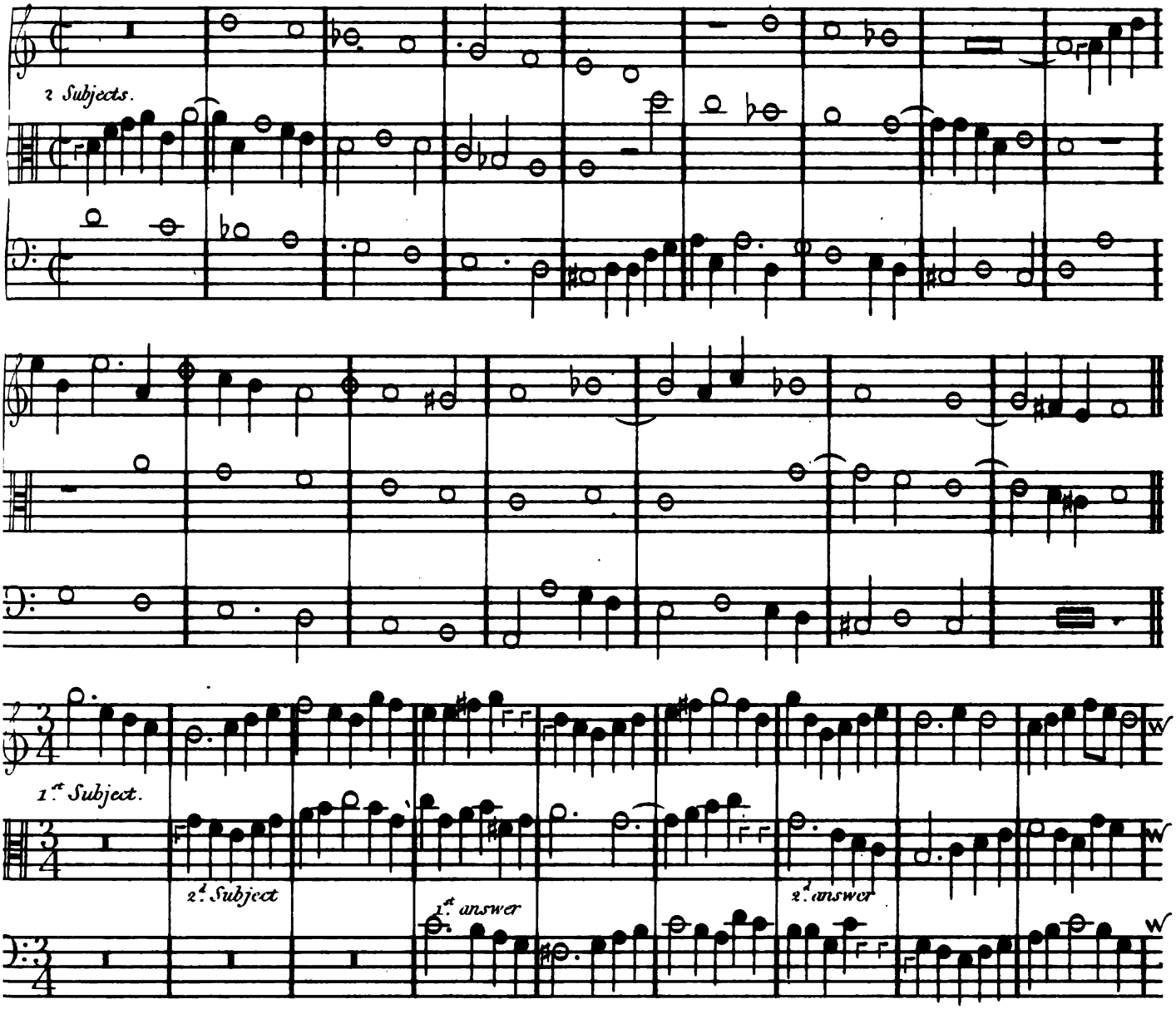
Answers to regular Fugues must be in the Unison, the 8.th 5.th or 4.th in order that they may proceed in the same intervals as the subject.



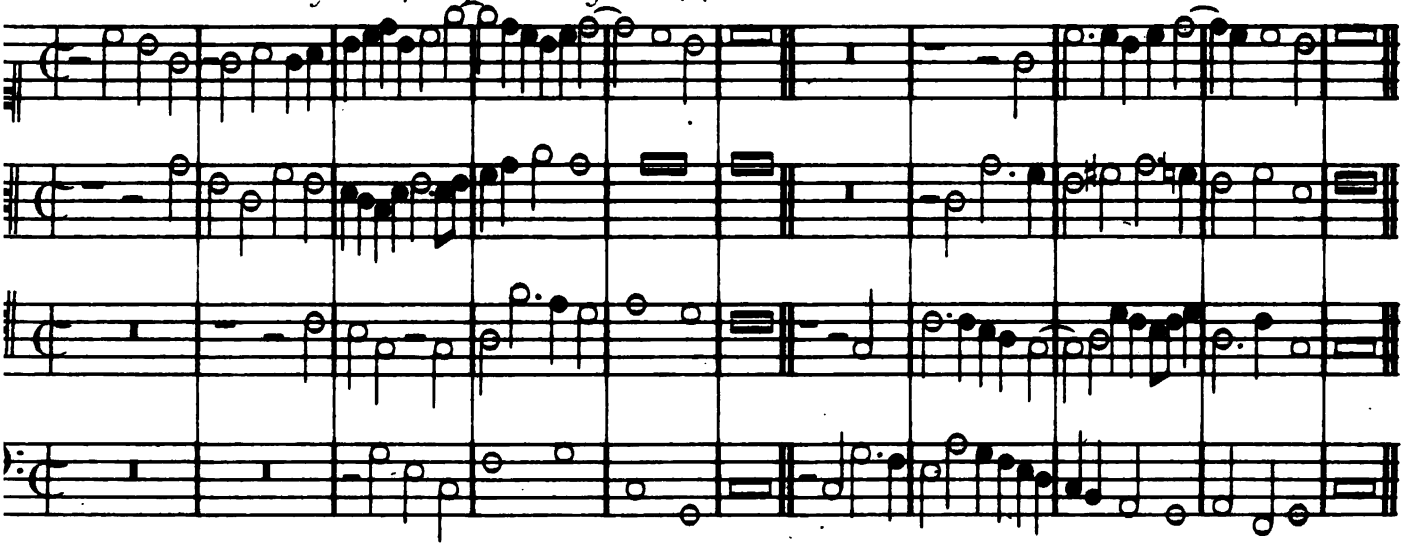
Published as the Act directs May 1.st 1806, by Longman Hurst Rees & Orme Paternoster Row.

Sala

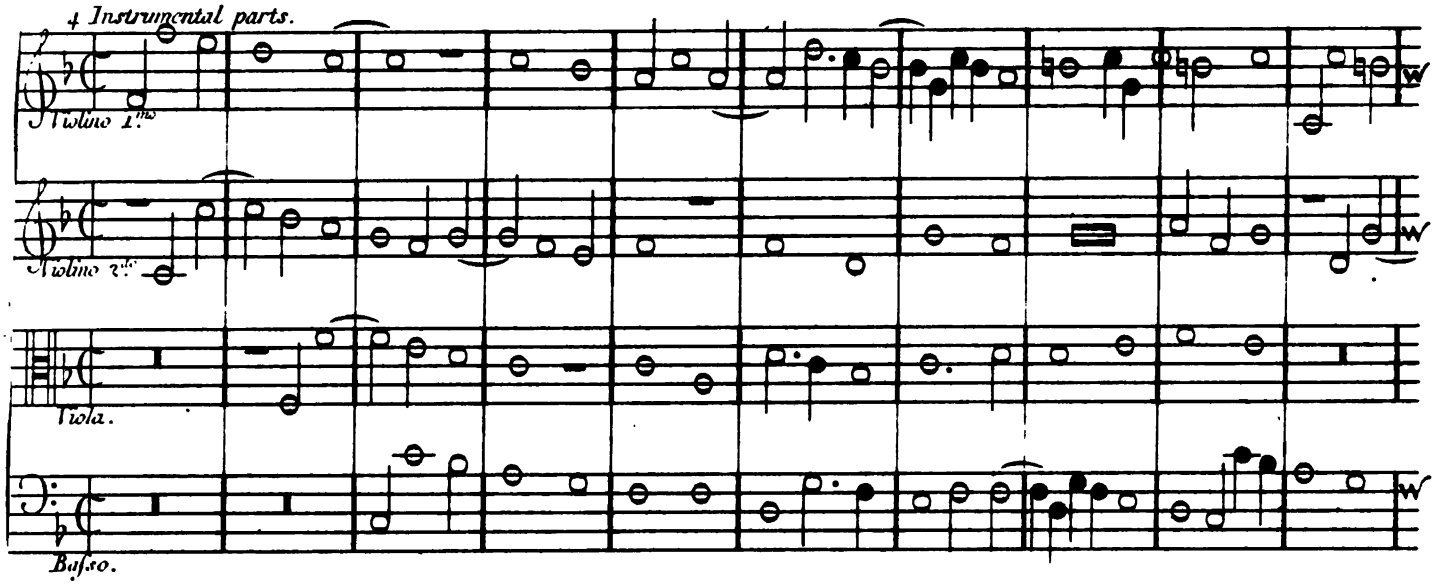
Introduction to the manner of disposing the several parts in Fugues a 3.



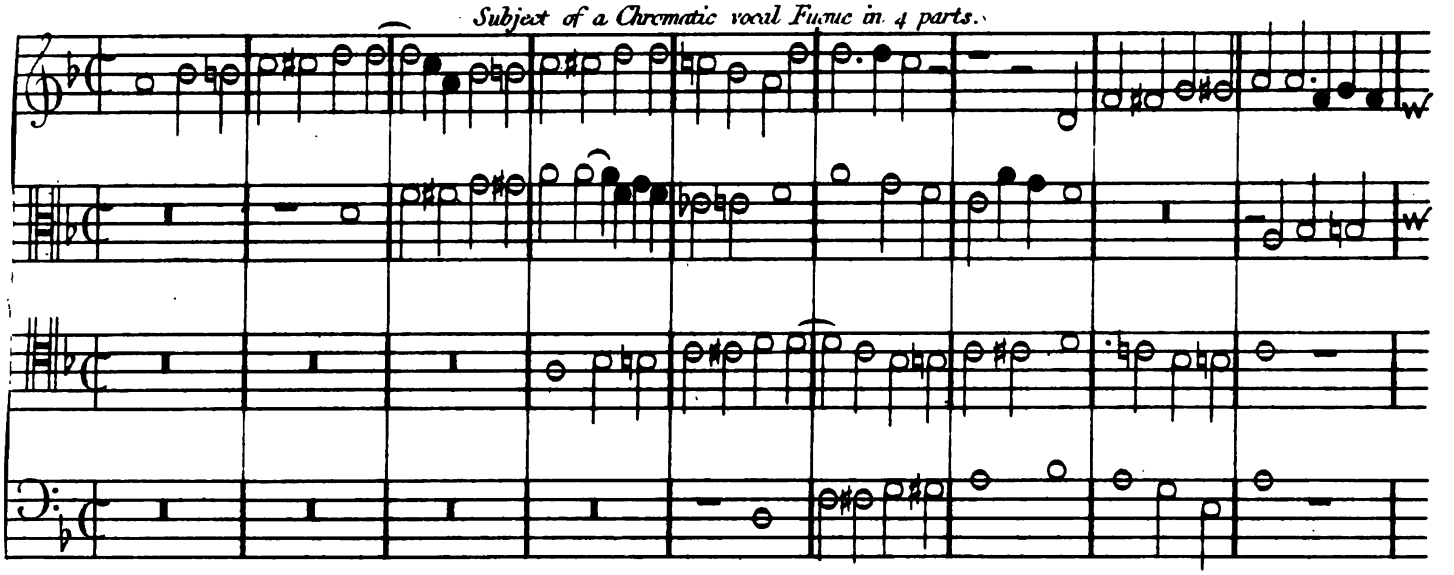
Arrangement of the parts in Fugues à 4. for Voices, where 3 Tenor clifs are used.



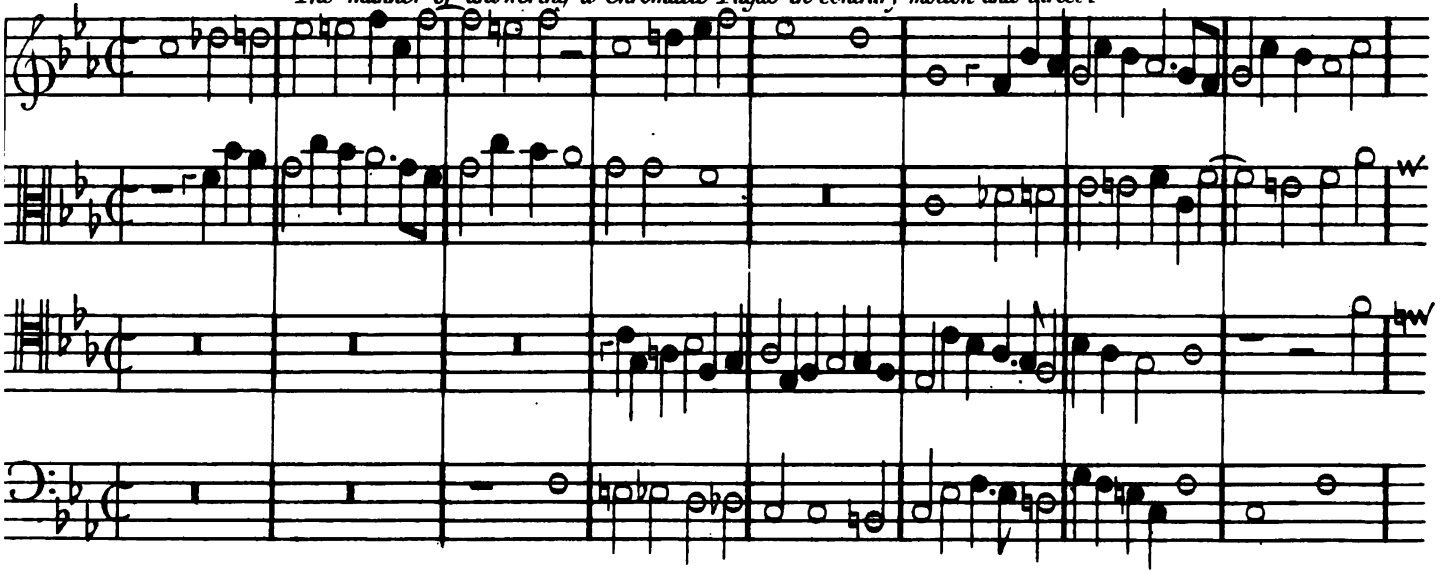
COUNTERPOINT.



Subject of a Chromatic vocal Fugue in 4 parts.



The manner of answering a Chromatic Fugue in contrary motion and direct.



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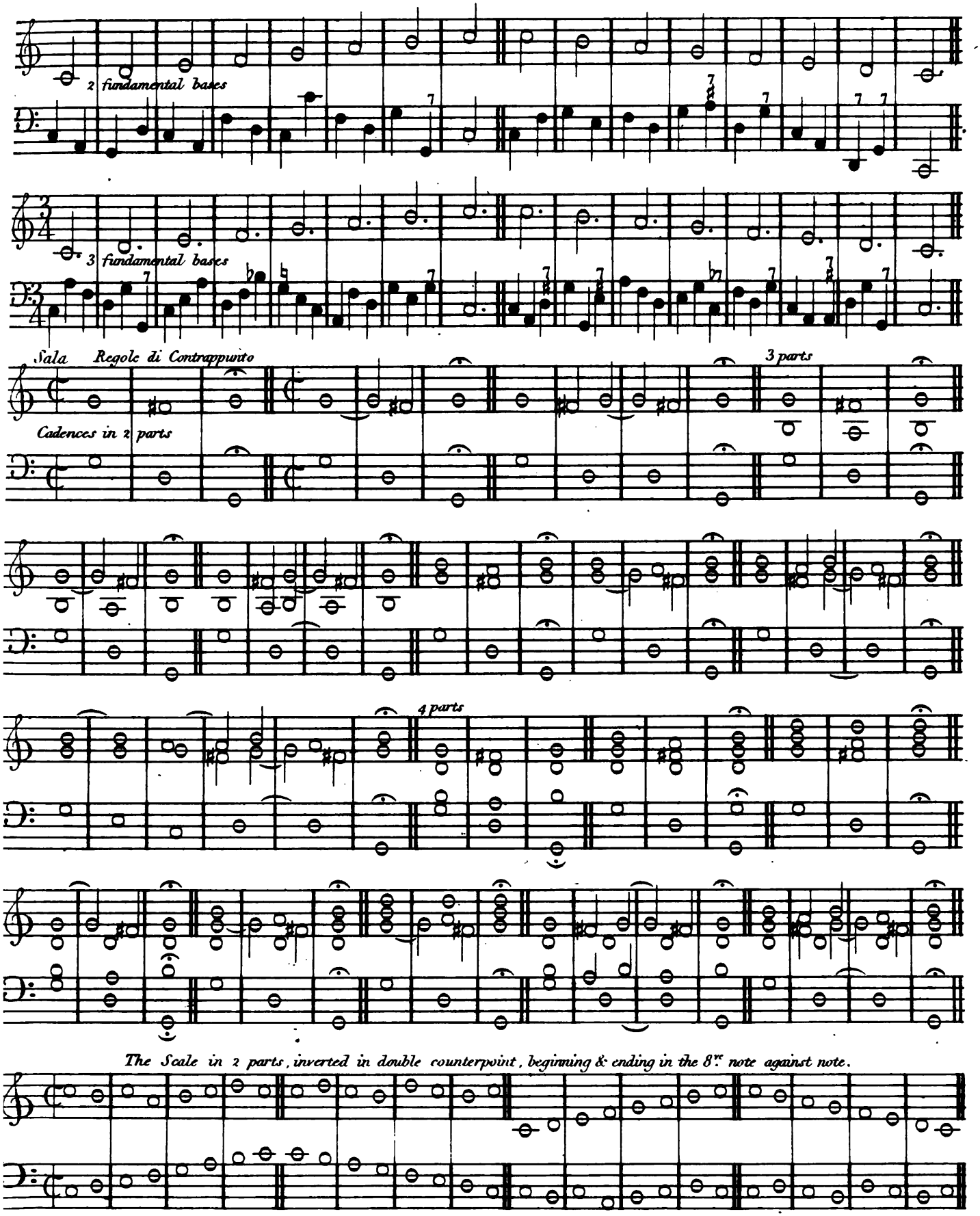
MUSIC.

COUNTERPOINT.



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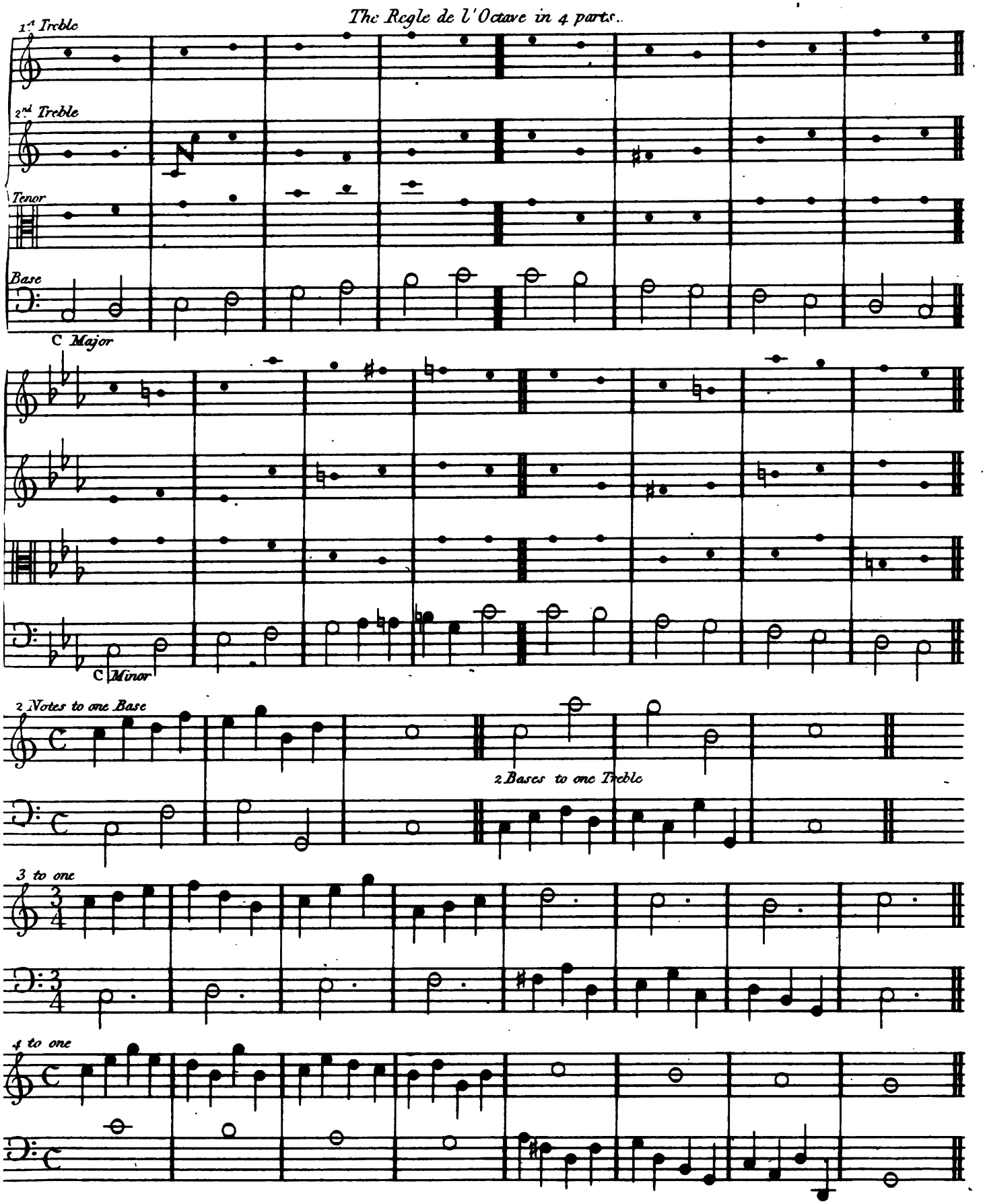
Jn.t Lee sculp.

MUSIC.

COUNTERPOINT.

The Regle de l'Octave in 4 parts.



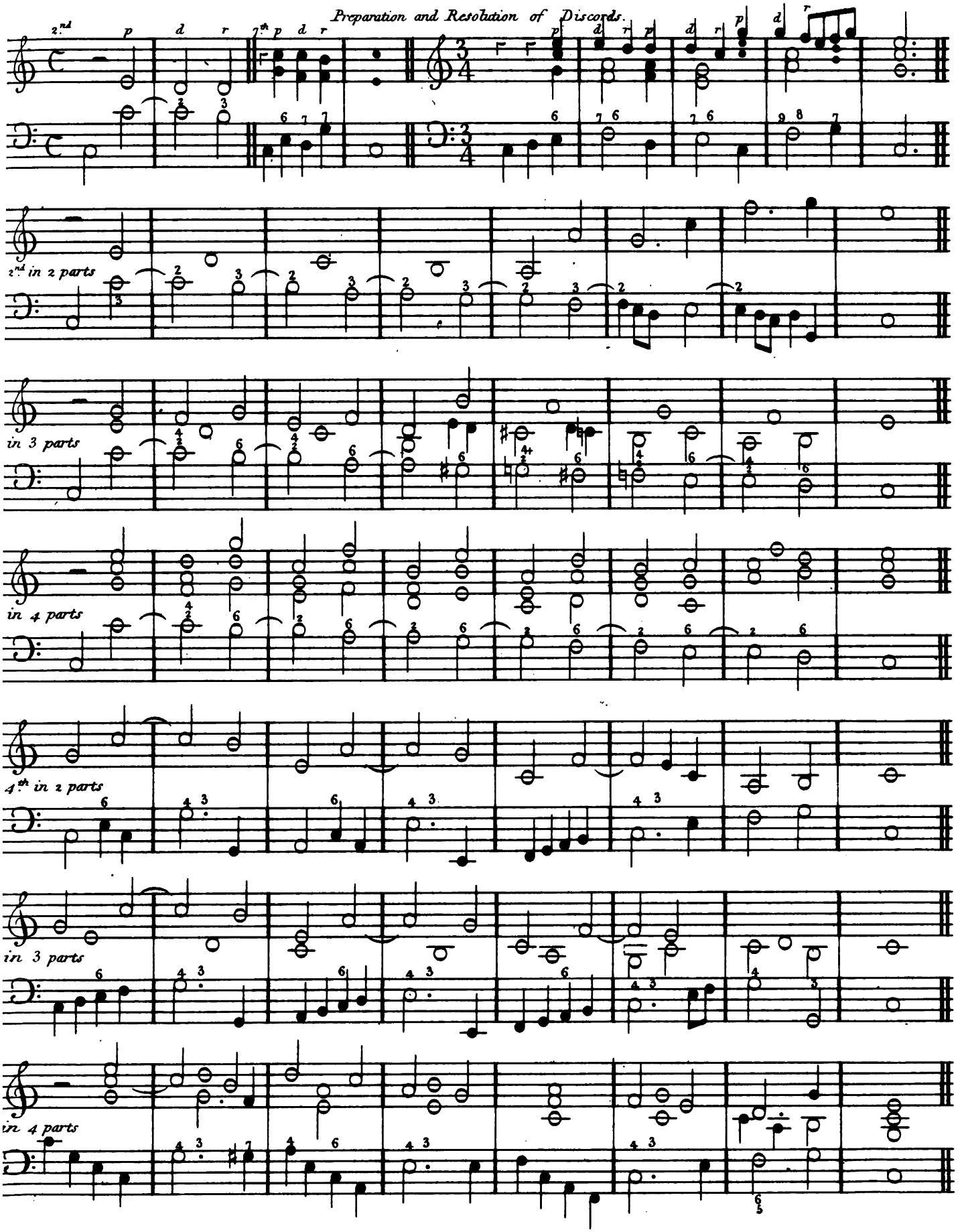
Published as the Act directs, 1806, by Longman, Hurst, Rees & Orme, Paternoster Row.

Jnº Lee Sculp

MUSIC.

COUNTERPOINT.

Preparation and Resolution of Discords.



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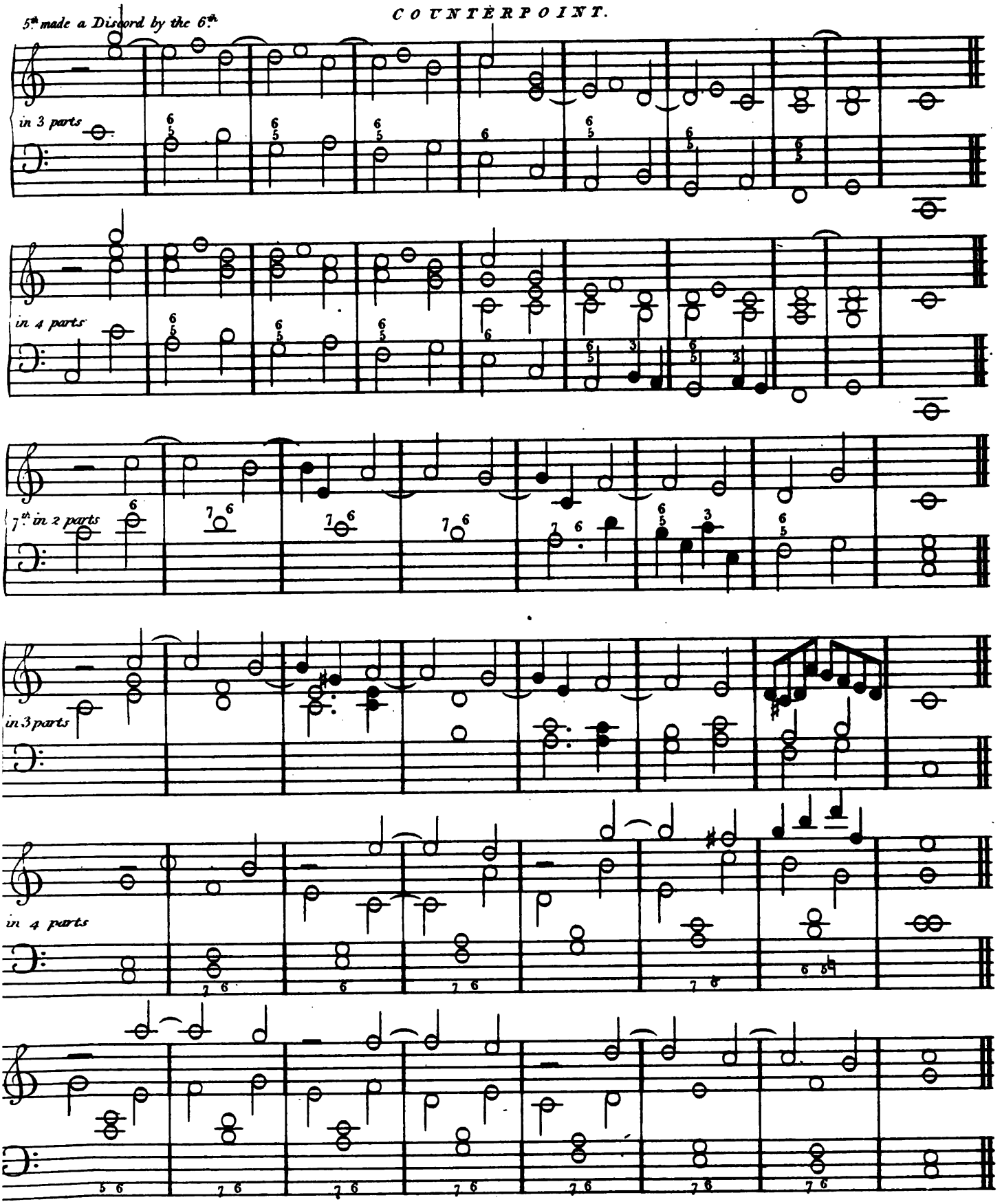
Jn.º Lee sculp

MUSIC.

COUNTERPOINT.



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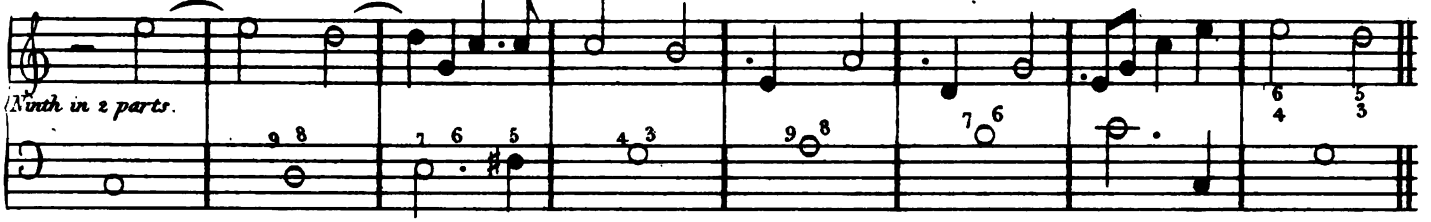
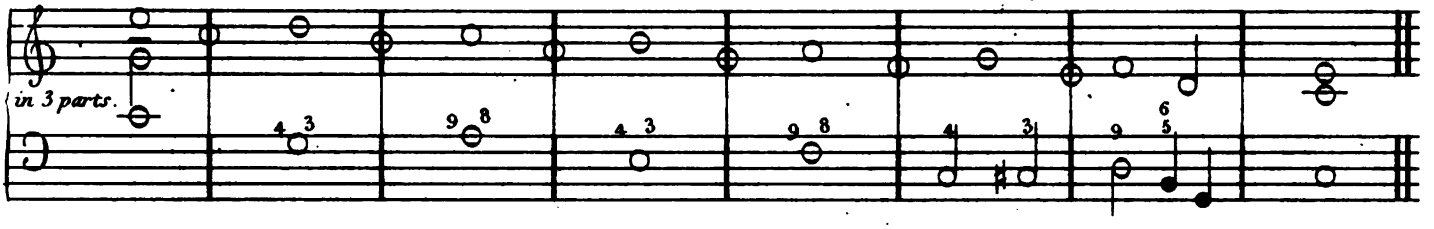
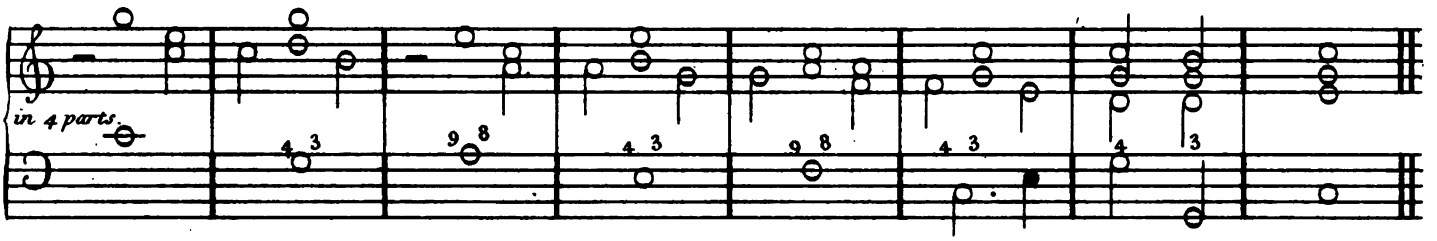
MUSIC.

COUNTERPOINT.

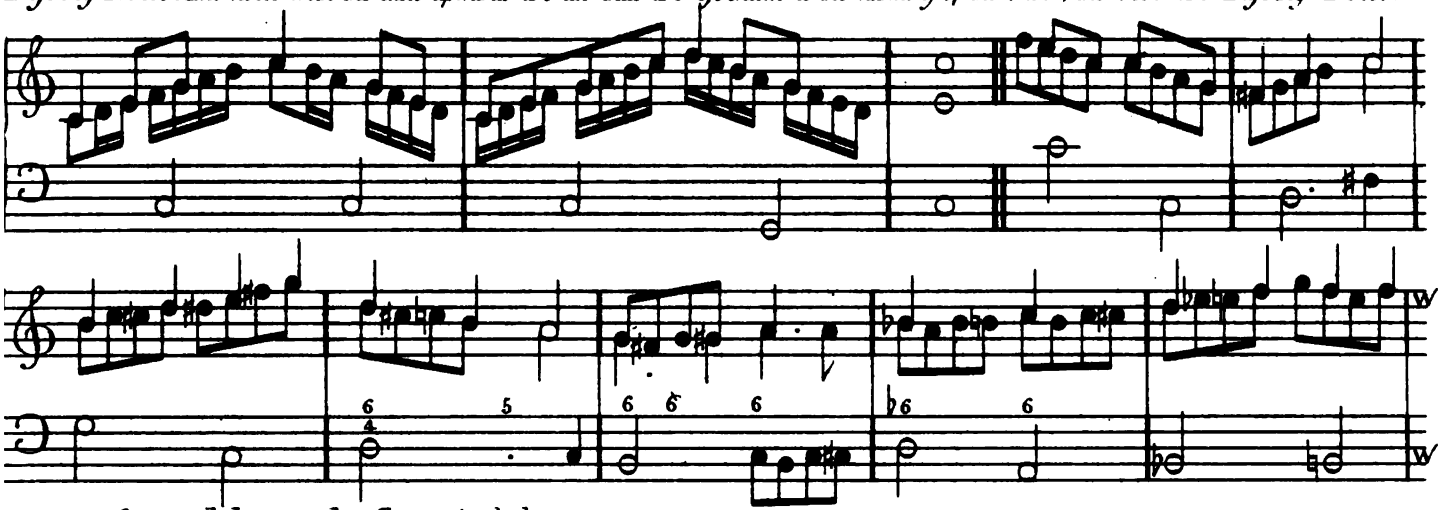


No Ninth can be used in the descending Scale, as it cannot be properly prepared.

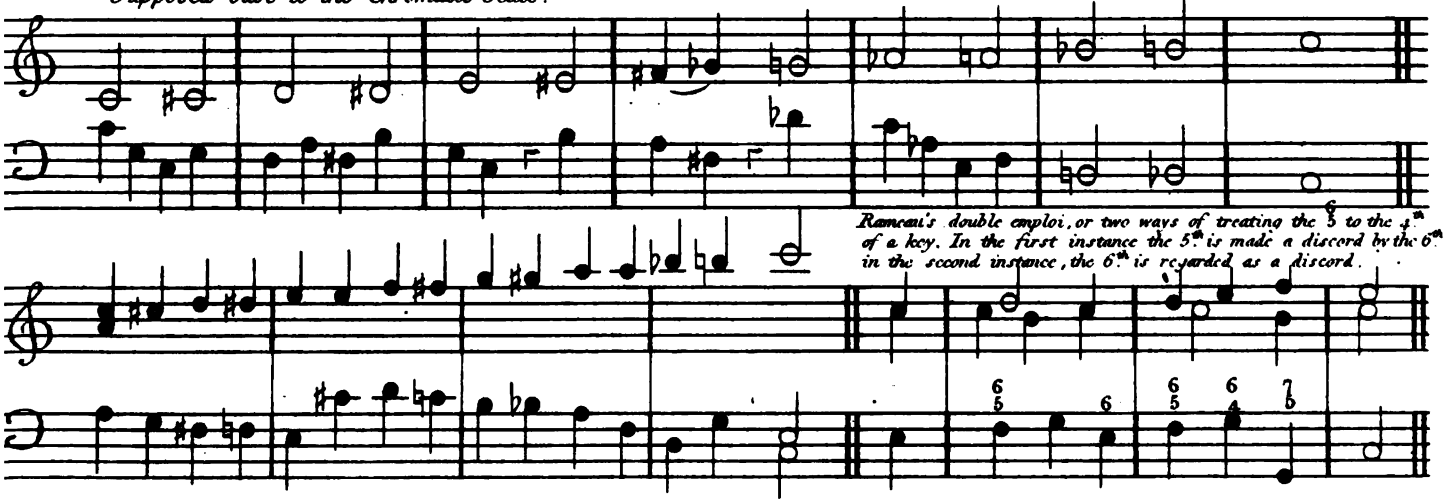




Passing Notes. The notes with the tails upwards are all that are essential to the harmony of the base, the rest are Passing-Notes.



Supposed base to the Chromatic Scale.



Rameau's double emploi, or two ways of treating the 5 to the 4th of a key. In the first instance the 5th is made a discord by the 6th in the second instance, the 6th is regarded as a discord.

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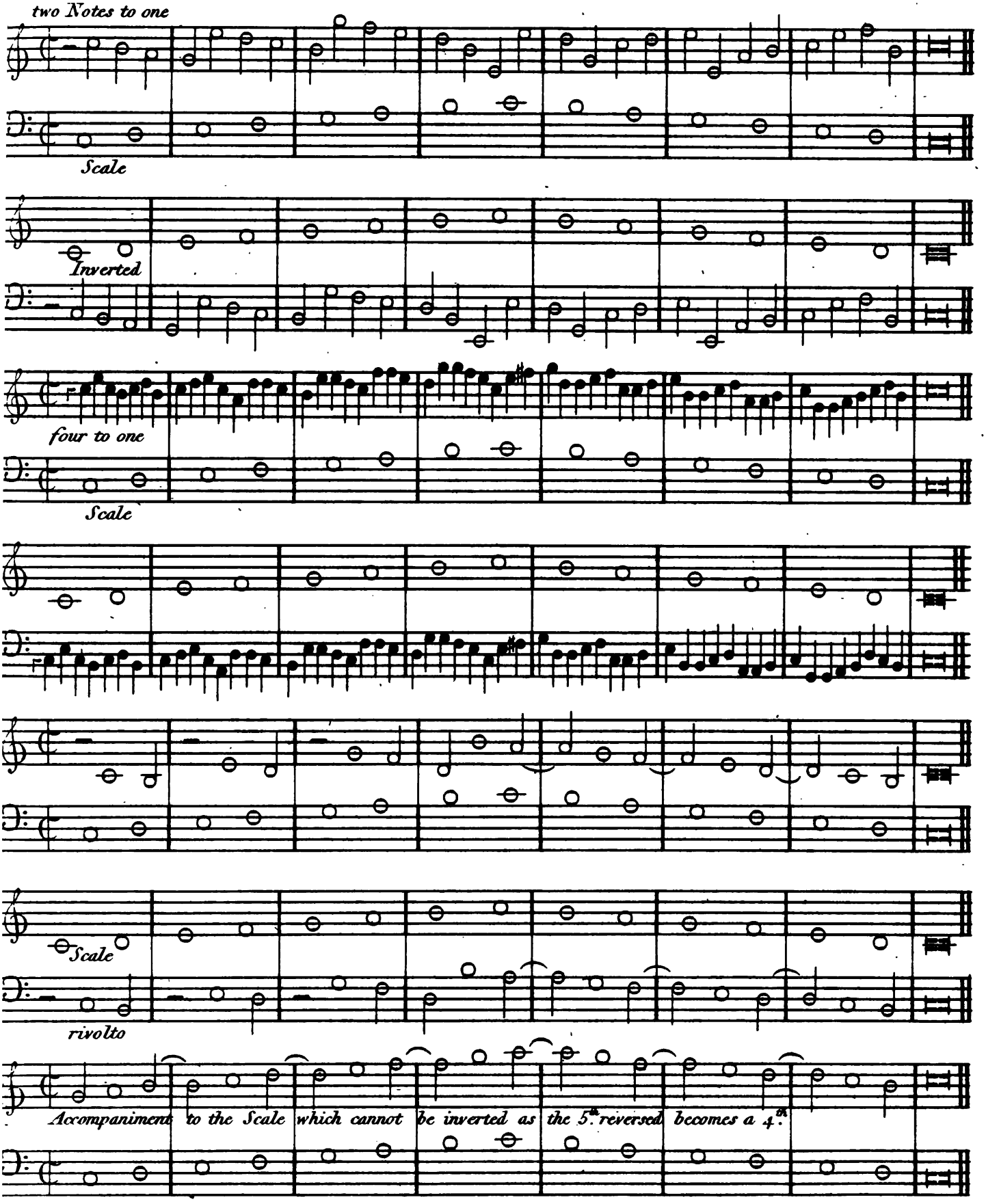
Jn.o Lee. sculp.

MUSIC.

DOUBLE COUNTERPOINT IN THE OCTAVE.



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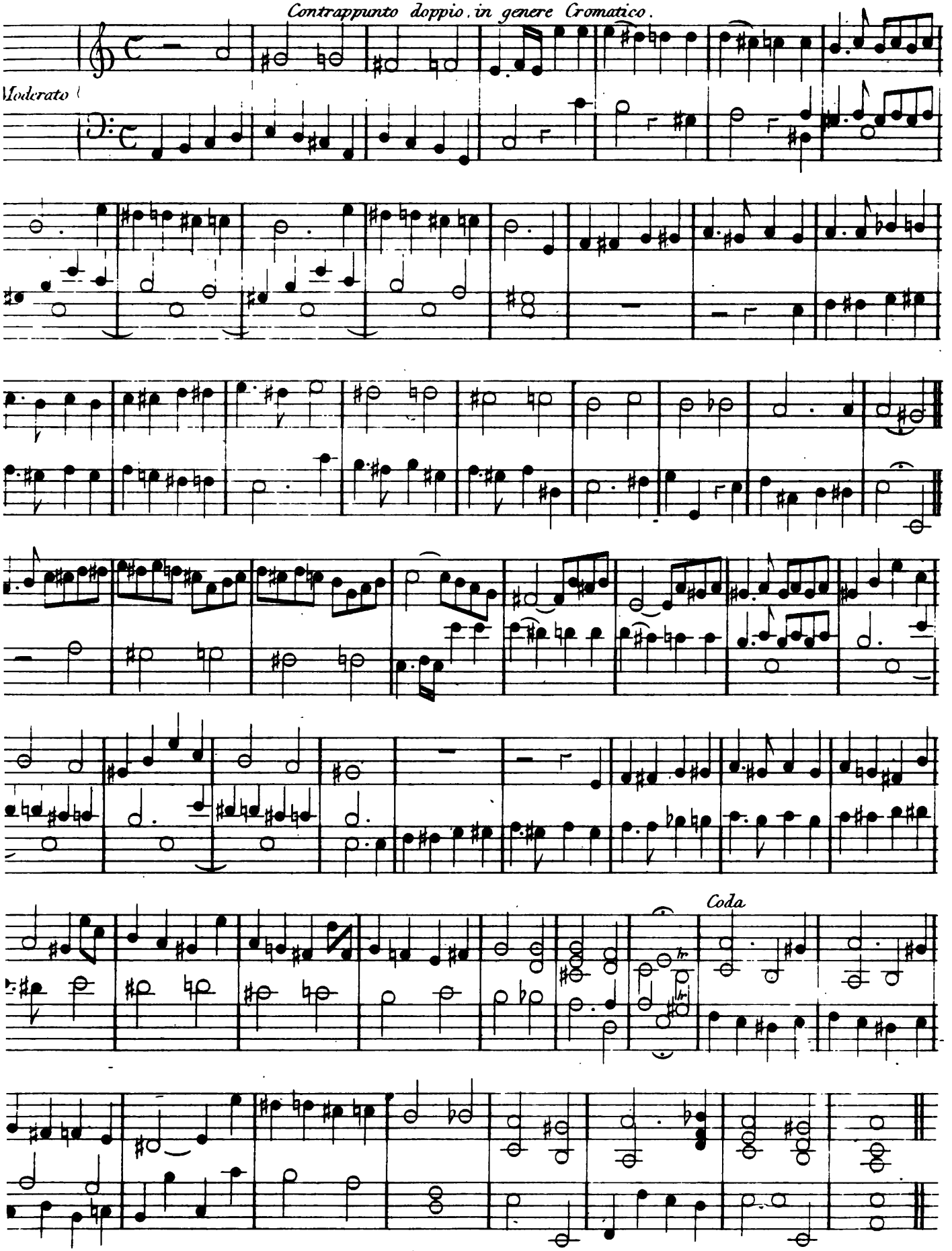
MUSIC.

Contrappunto doppio, in genere Cromatico.



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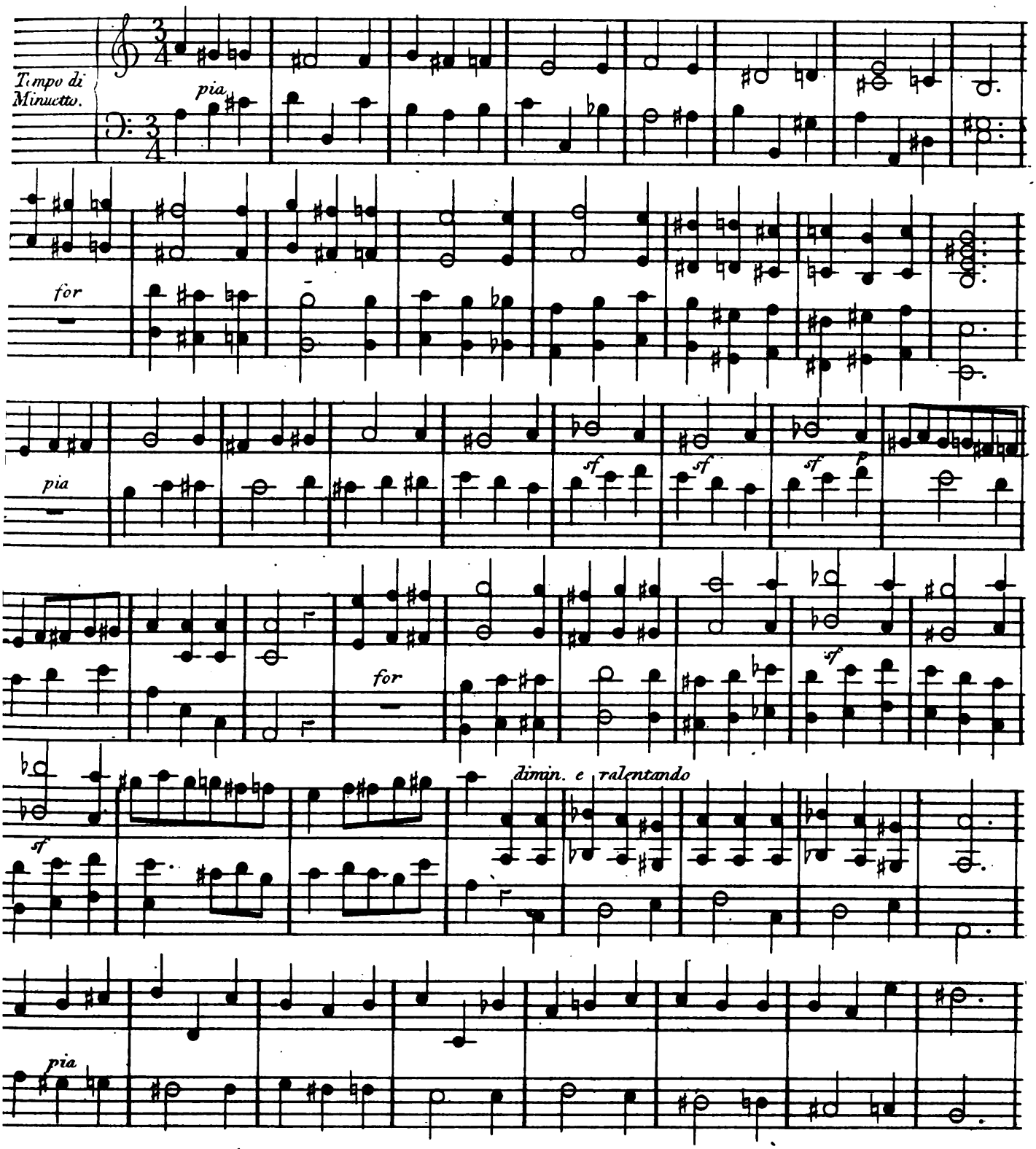
Jn° Lee sculp

Contrappunto doppio, in genere Cromatico. continued.



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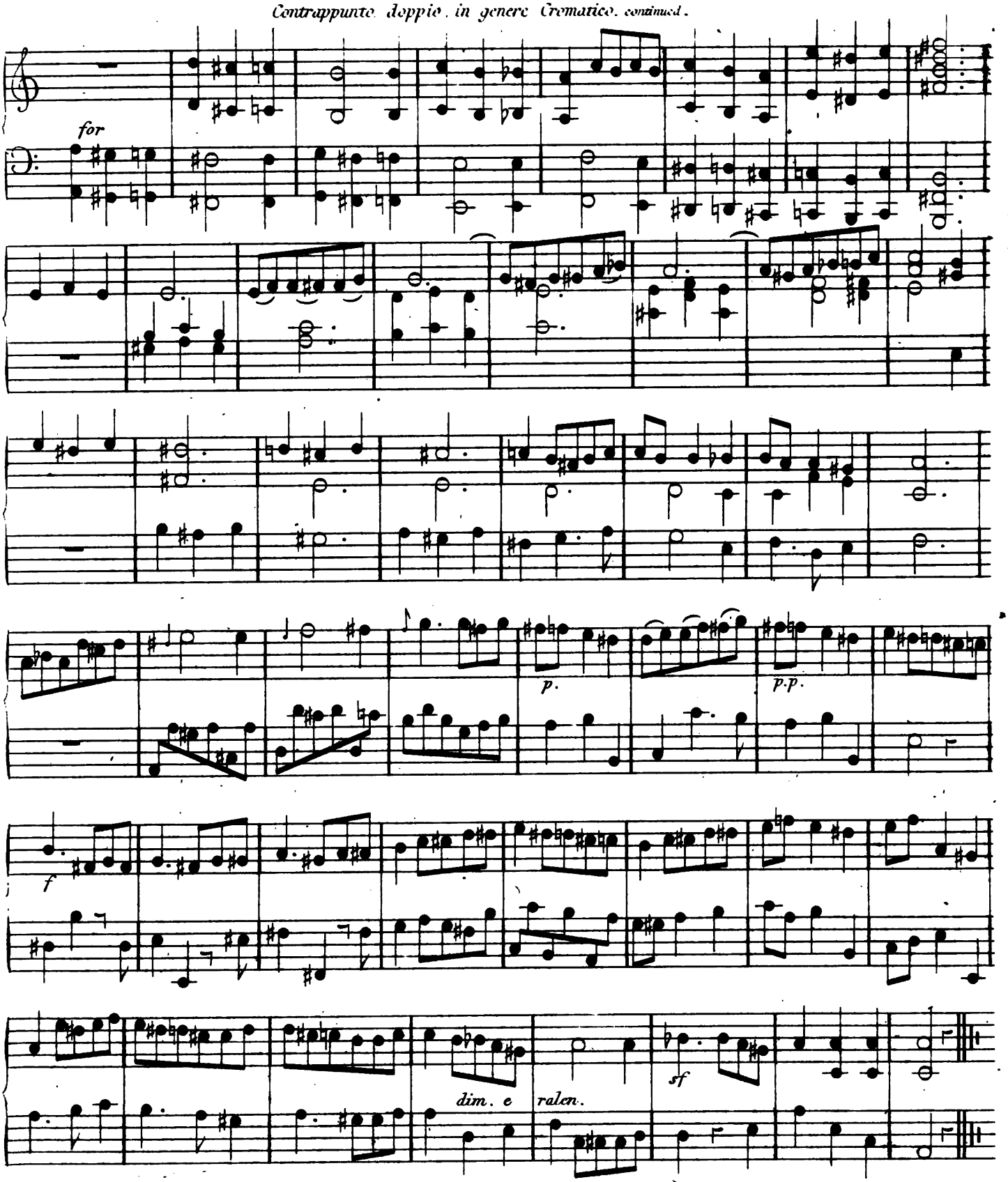
Jn.o Lee sculp.

MUSIC.

Contrappunto doppio in genere Cromatico. continued.



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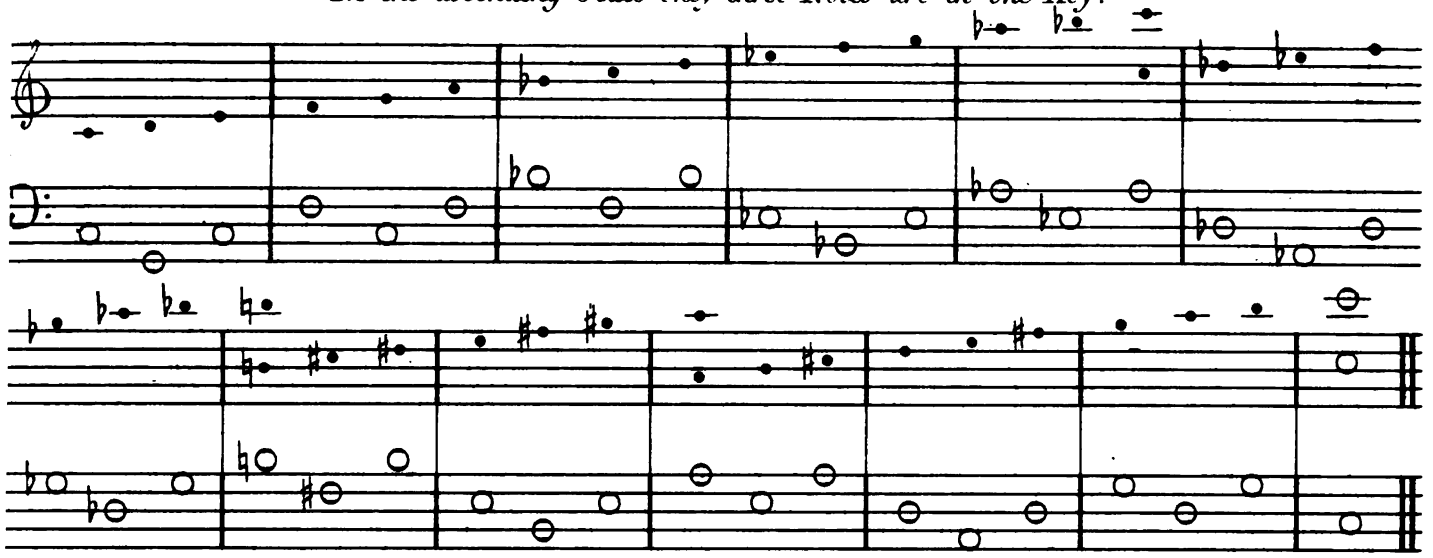
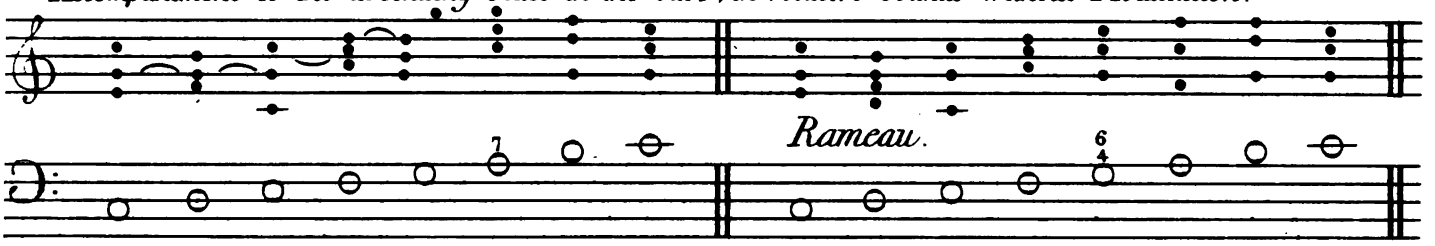
MODULATION.

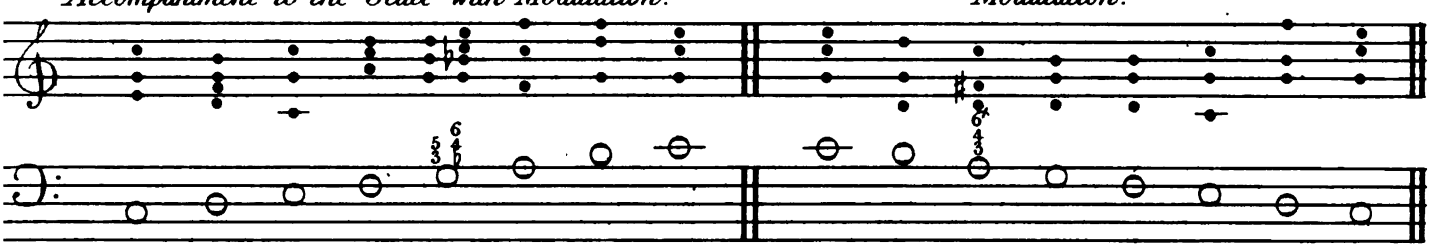
In the ascending Scale only three Notes are in one Key.



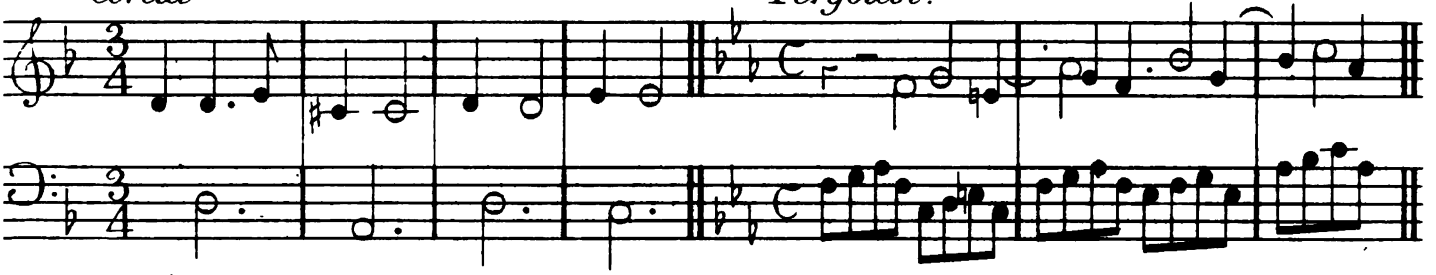
Accompaniment to the ascending Scale in the base, in relative sounds without Modulation.



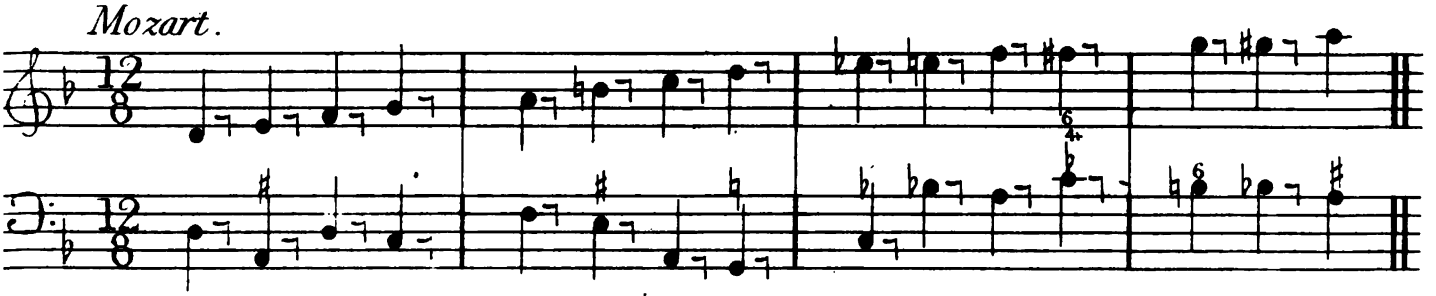
Accompaniment to the Scale with Modulation. *Modulation.*



Corelli *Unrelative Modulation.* *Pergolesi.*



Mozart.



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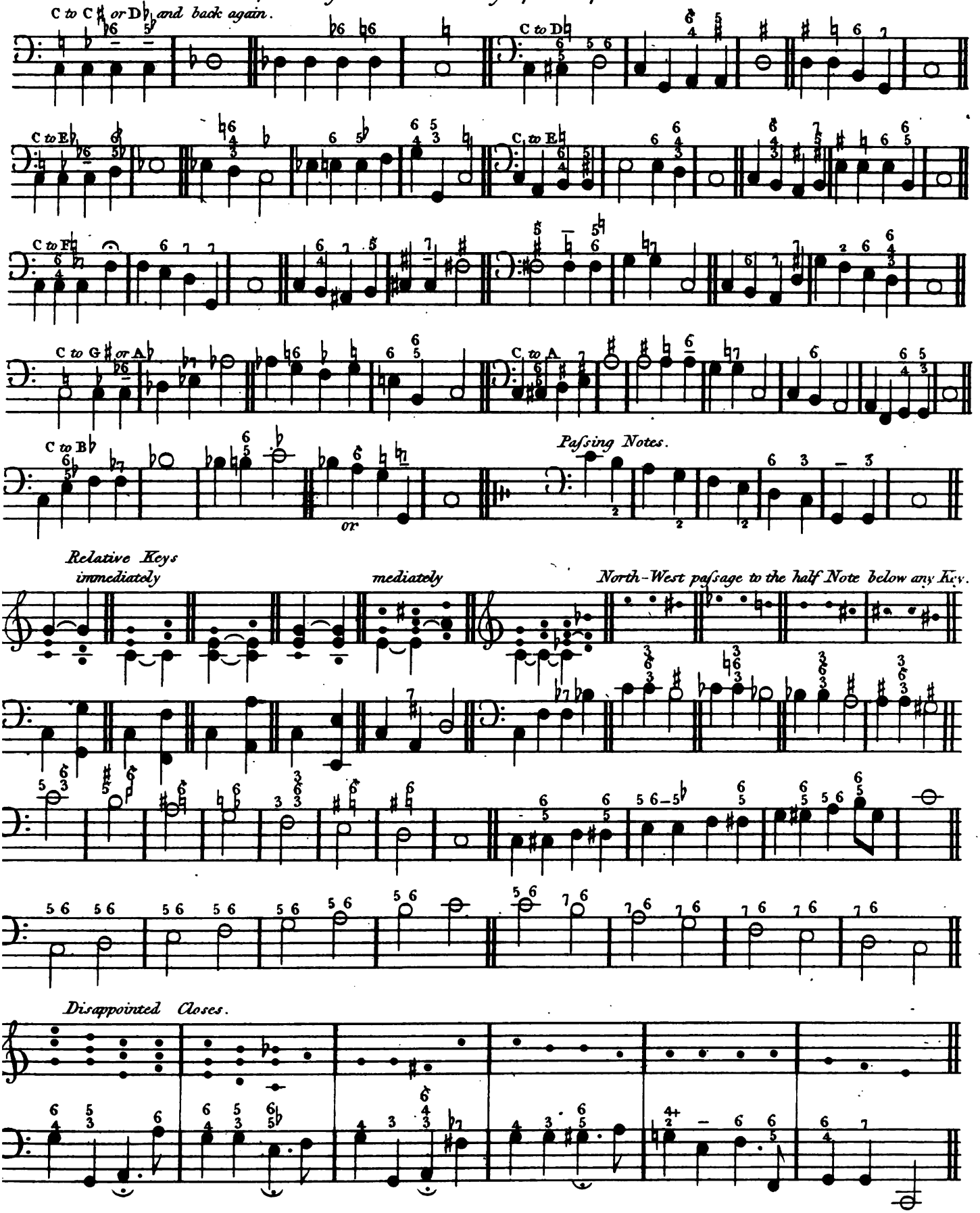
MUSIC.

Modulation from a given Note to every species of Interval in the Octave.



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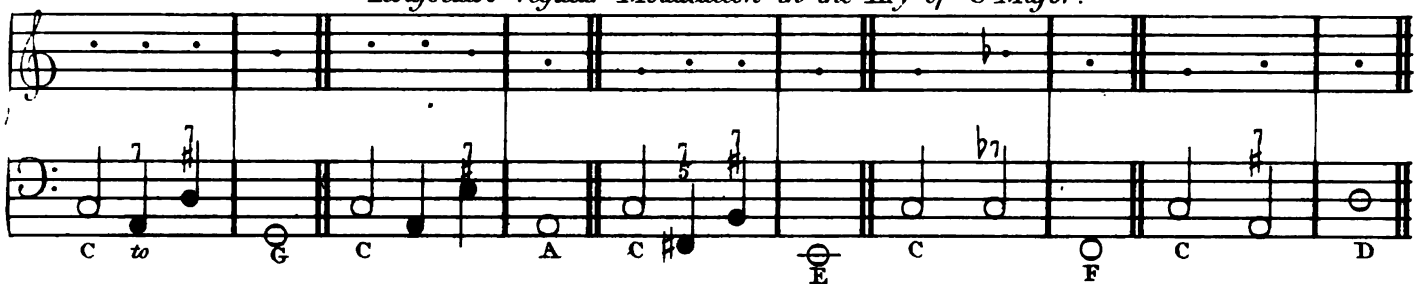
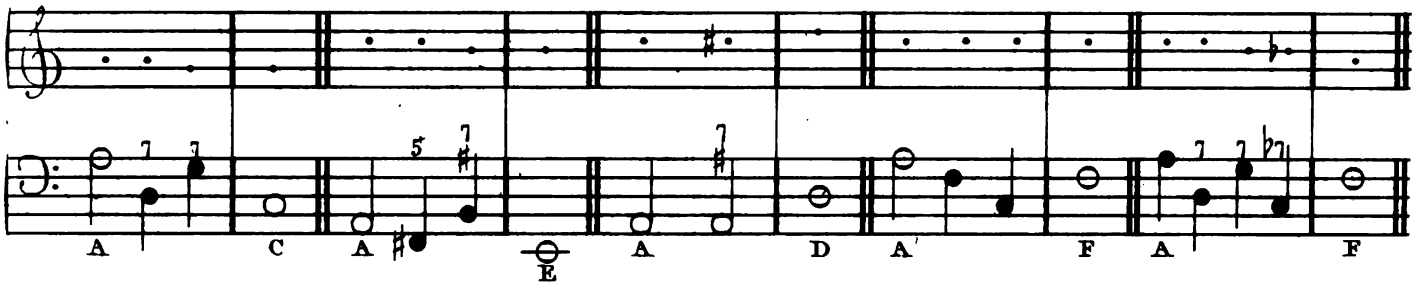
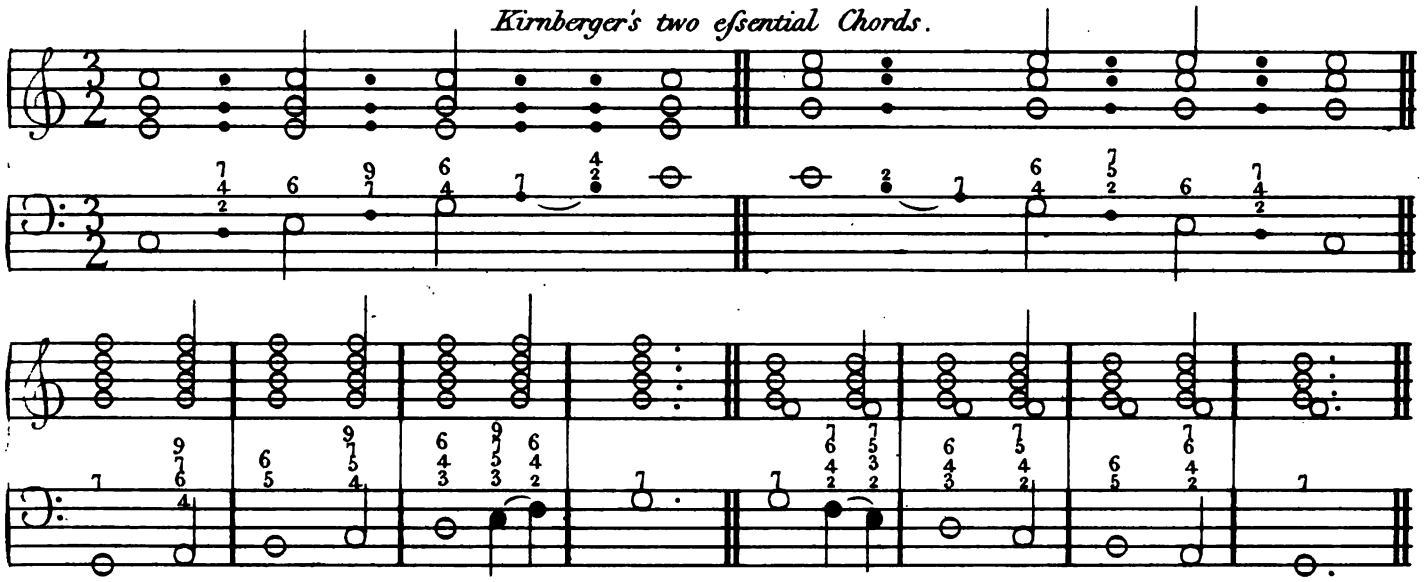
MUSIC.

Rouſseau's regular Modulation in the Key of C *Major.*

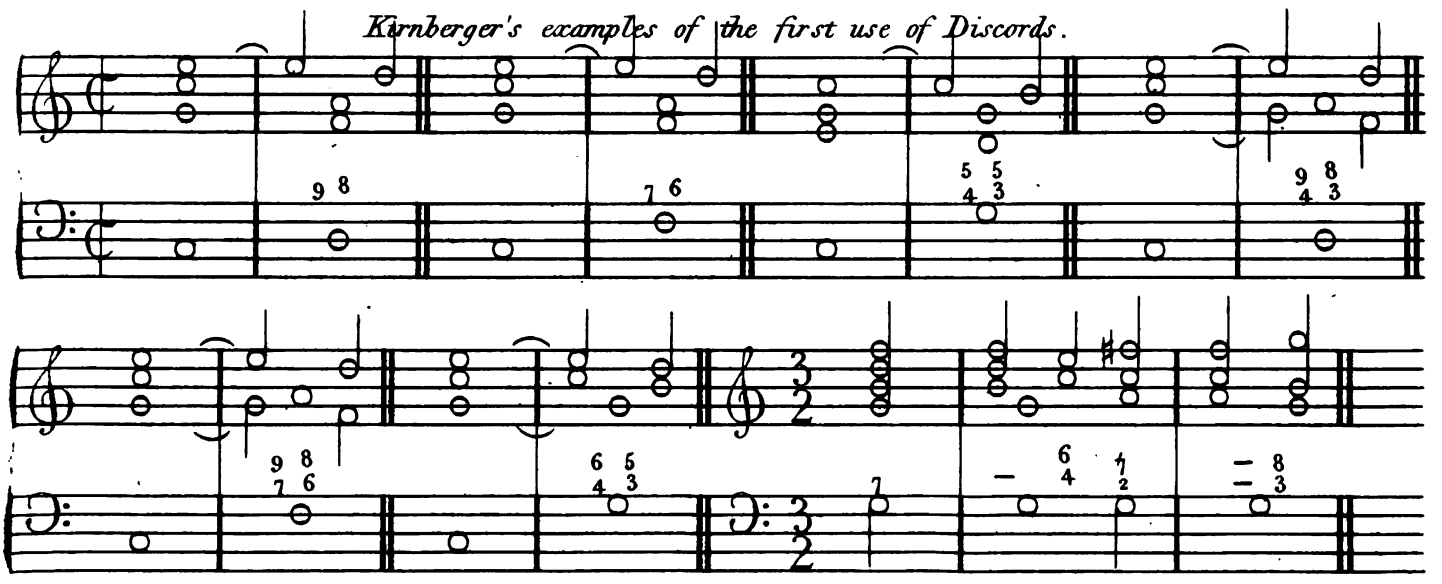




Kirnberger's two eſsential Chords.



Kirnberger's examples of the first use of Discords.



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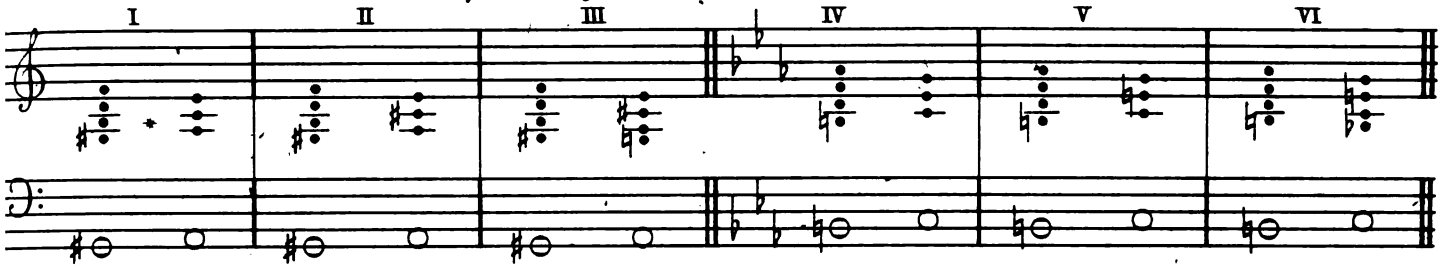
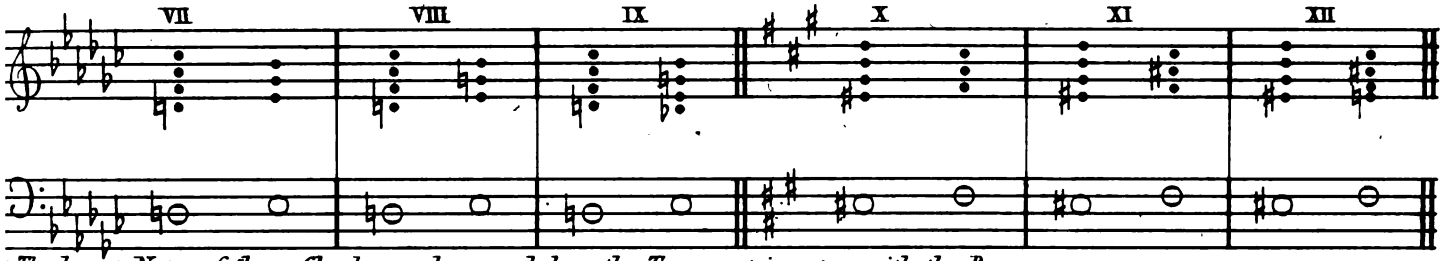
Jn.t Lee sculp

MUSIC.

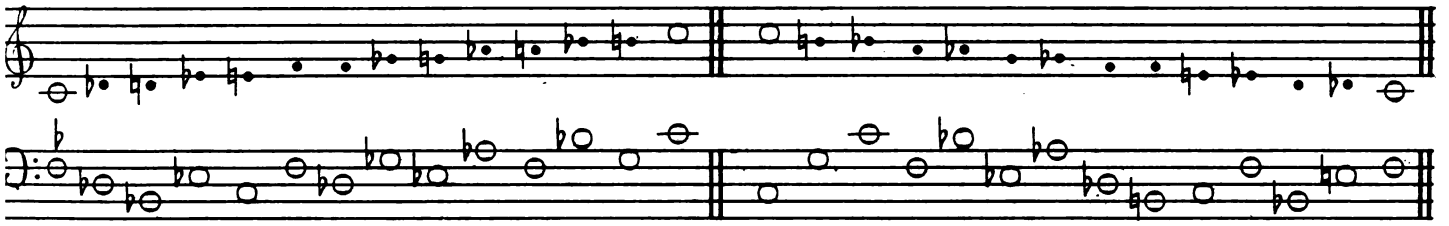
Product of the Chord of the extreme flat 7th commonly called the enharmonic Chord.



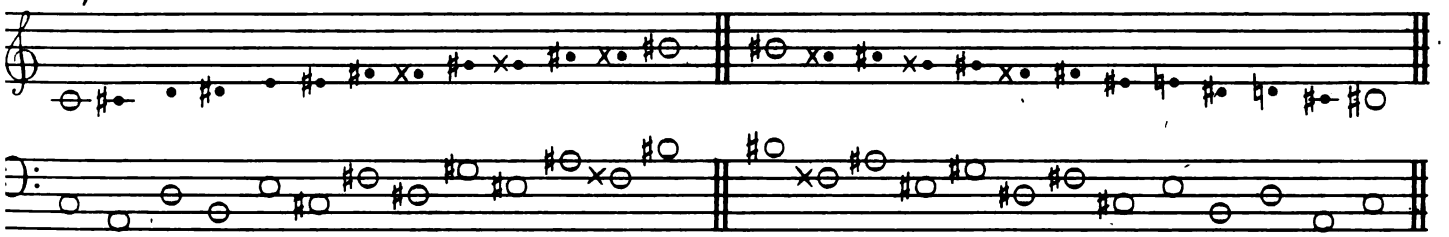


The lowest Notes of these Chords may be regarded as the Tenor part in octave with the Base.

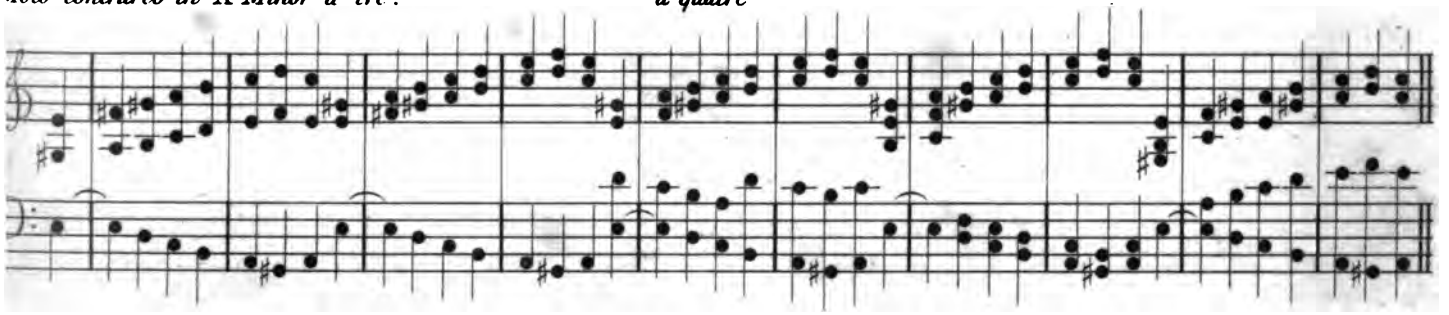
Modern Chromatic in flats.



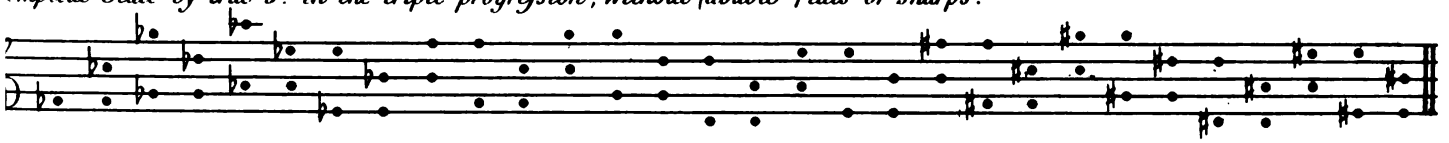
In Sharps.



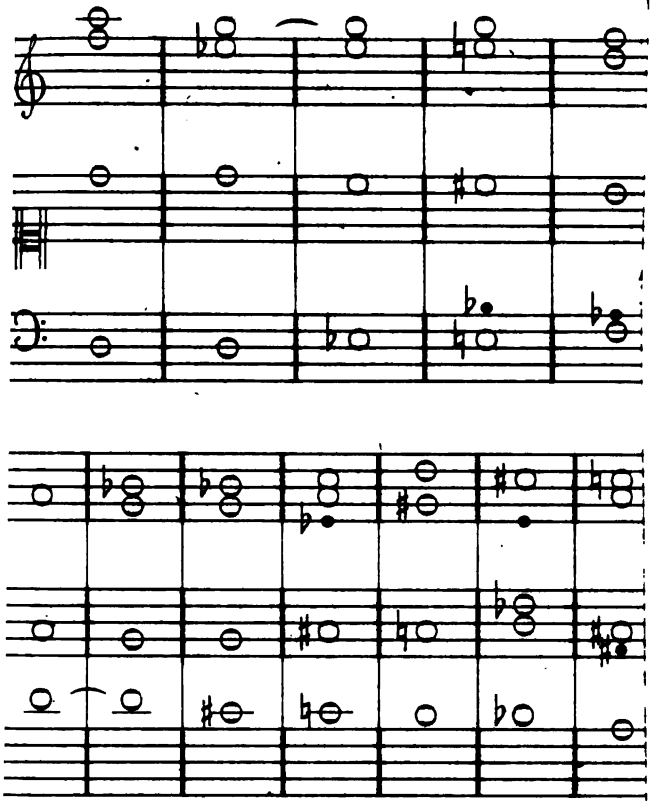
Moto contrario in A *Minor à tre.* *à quatre*



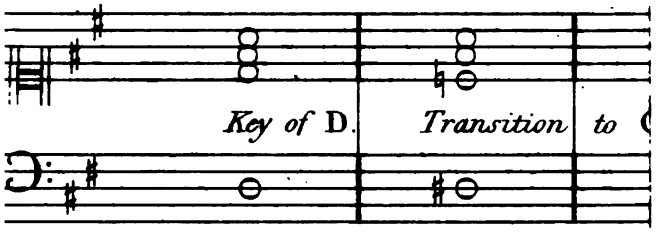
Compleat Scale by true 5th in the triple progression, without double flats or sharps.



Example of the Pathetic Genus, in which

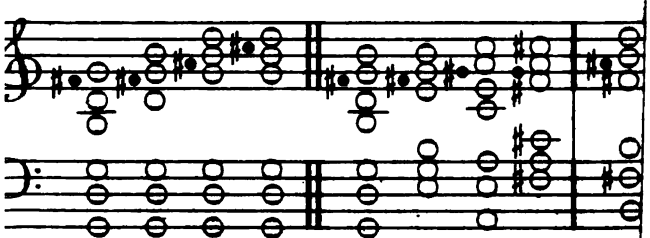


First example of paſsing immediately from
Key-Note to the sharp 7th of another Key.



t must be observed, that to feel the effect of t
efore we paſs to the third. This tends to an
he harmony of every Chord which suits with
o Adagios. The Pathetic Genus appertains o

Acciaccature



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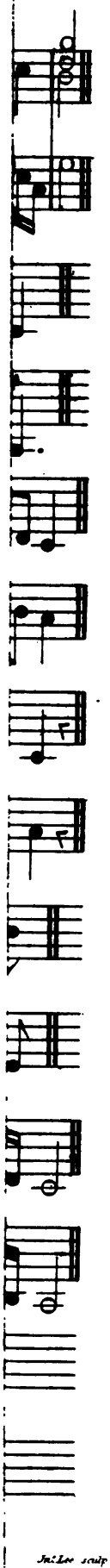
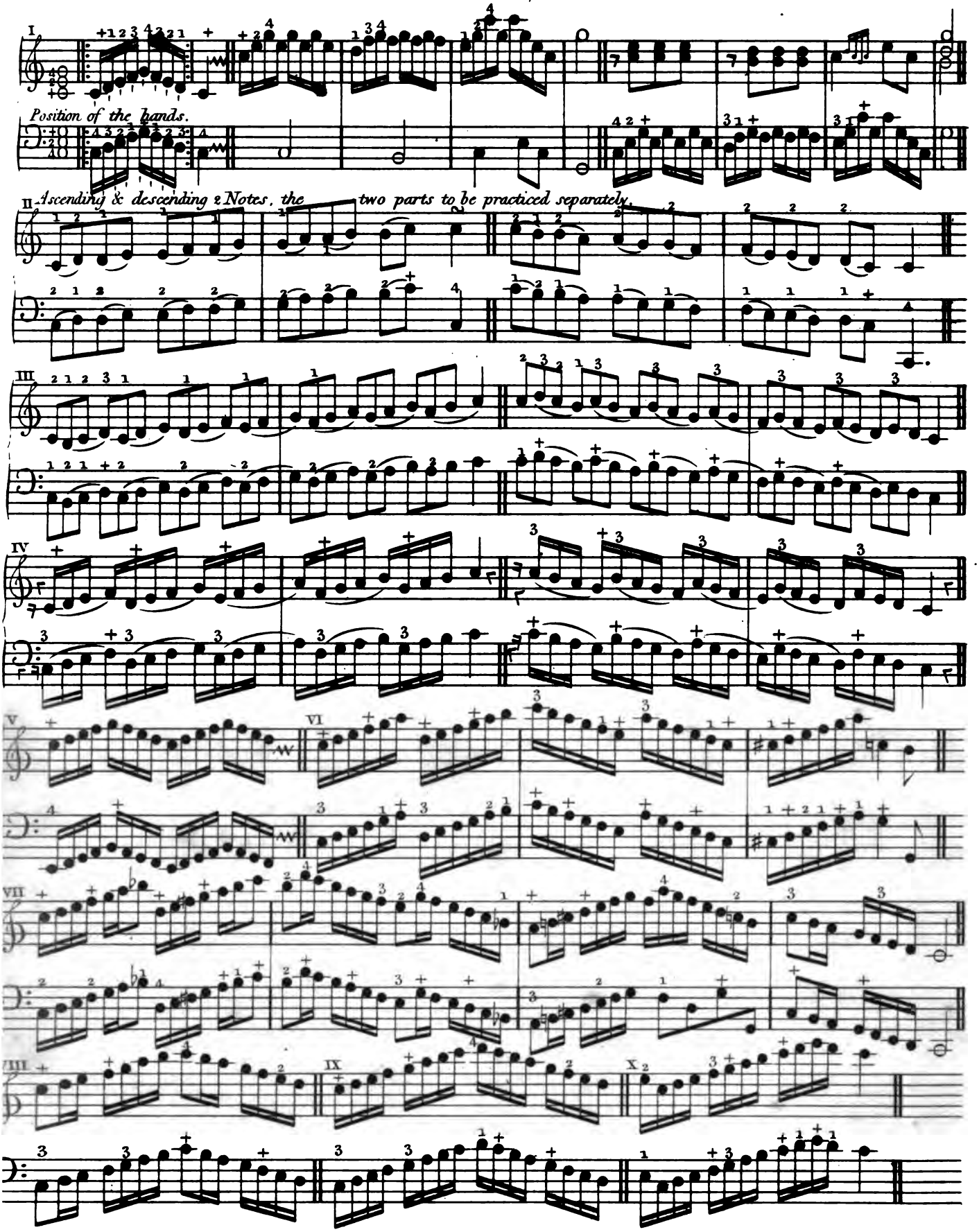


Jas Lee sculp

MUSIC.

FINGERING ON KEYED-INSTRUMENTS.



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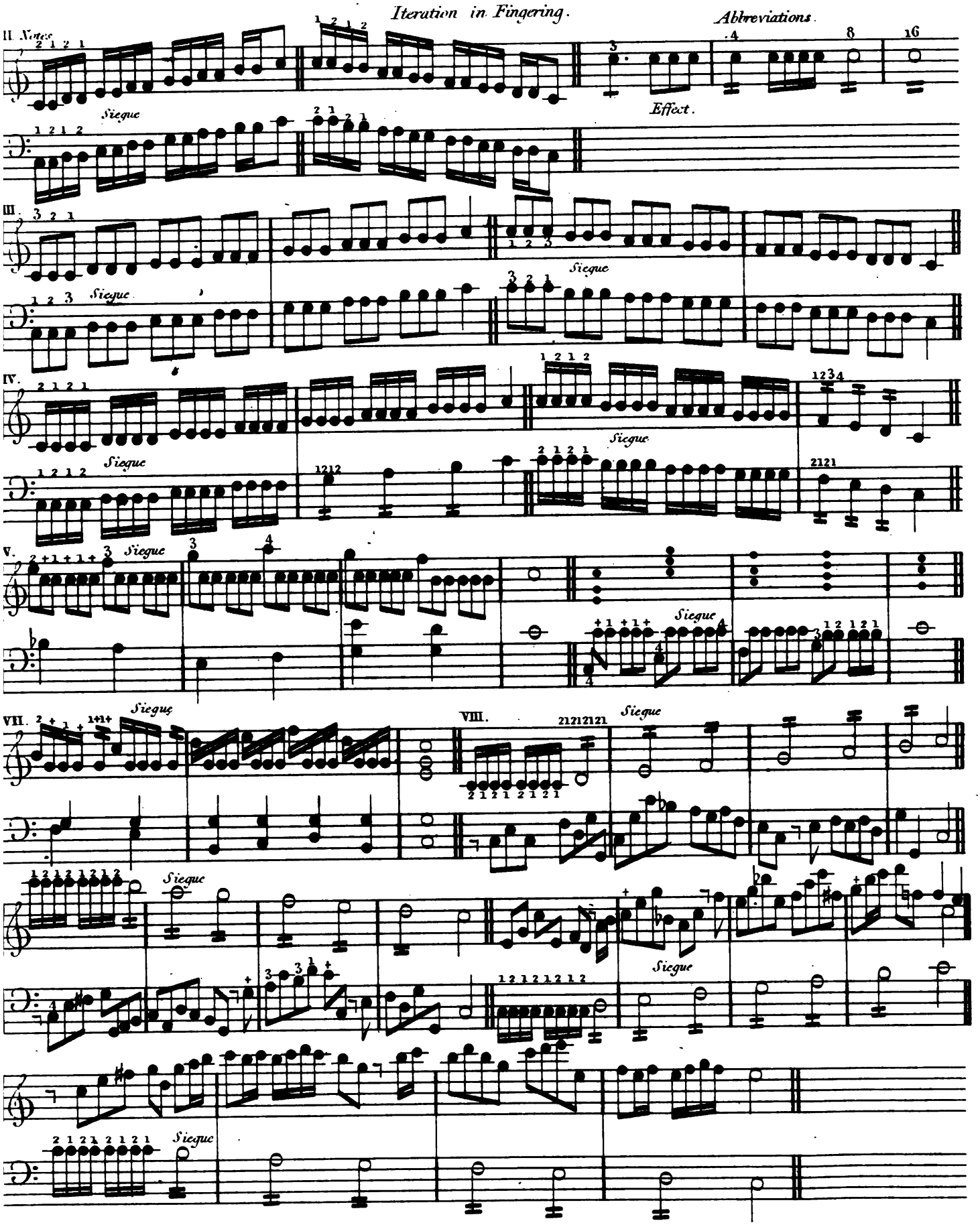
Jn.o Lee sculp.

MUSIC.



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MUSIC.

Fingering of semitonic or chromatic divisions.

Right hand.

Left hand.

Exercises for the hands.

Double Notes.

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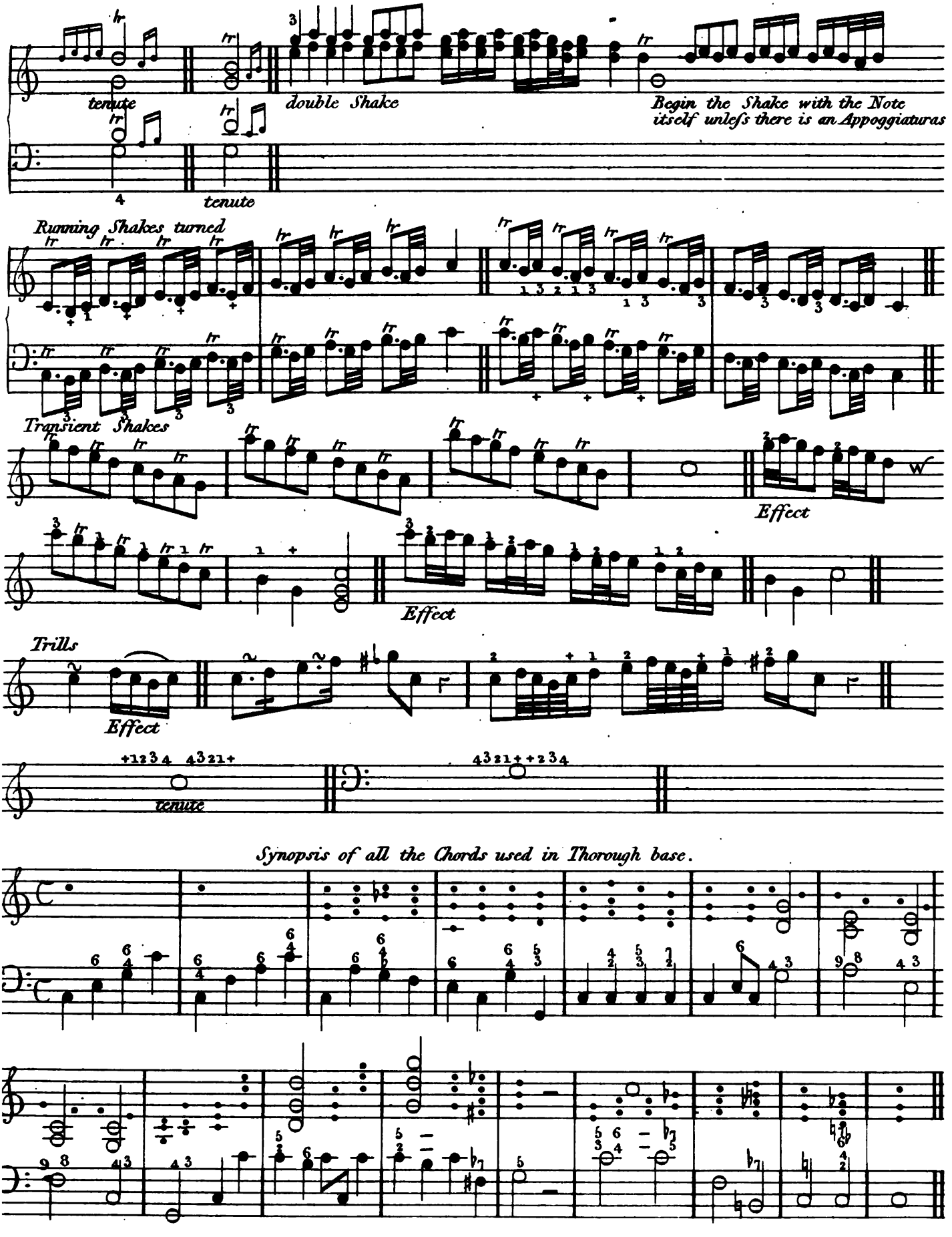
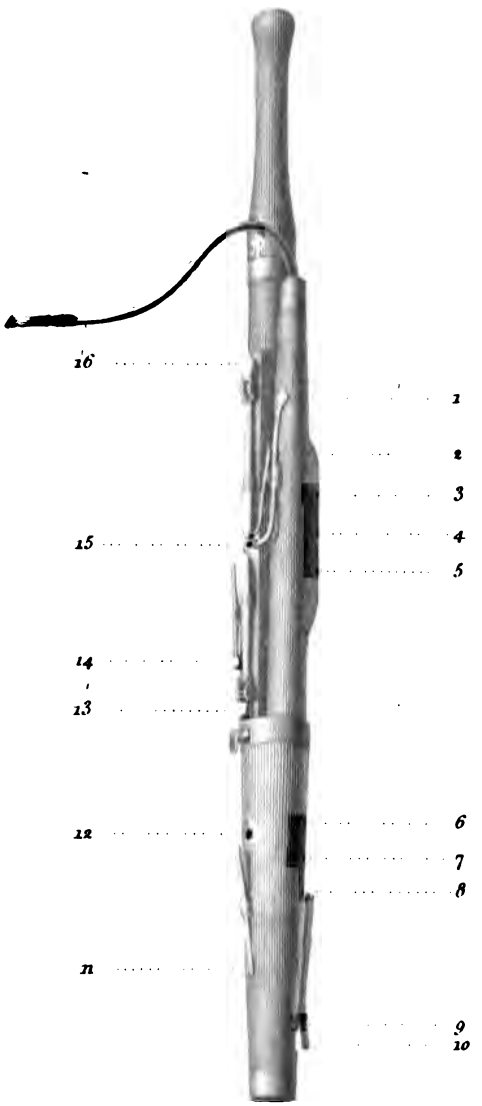
Jn.o Lee sculp

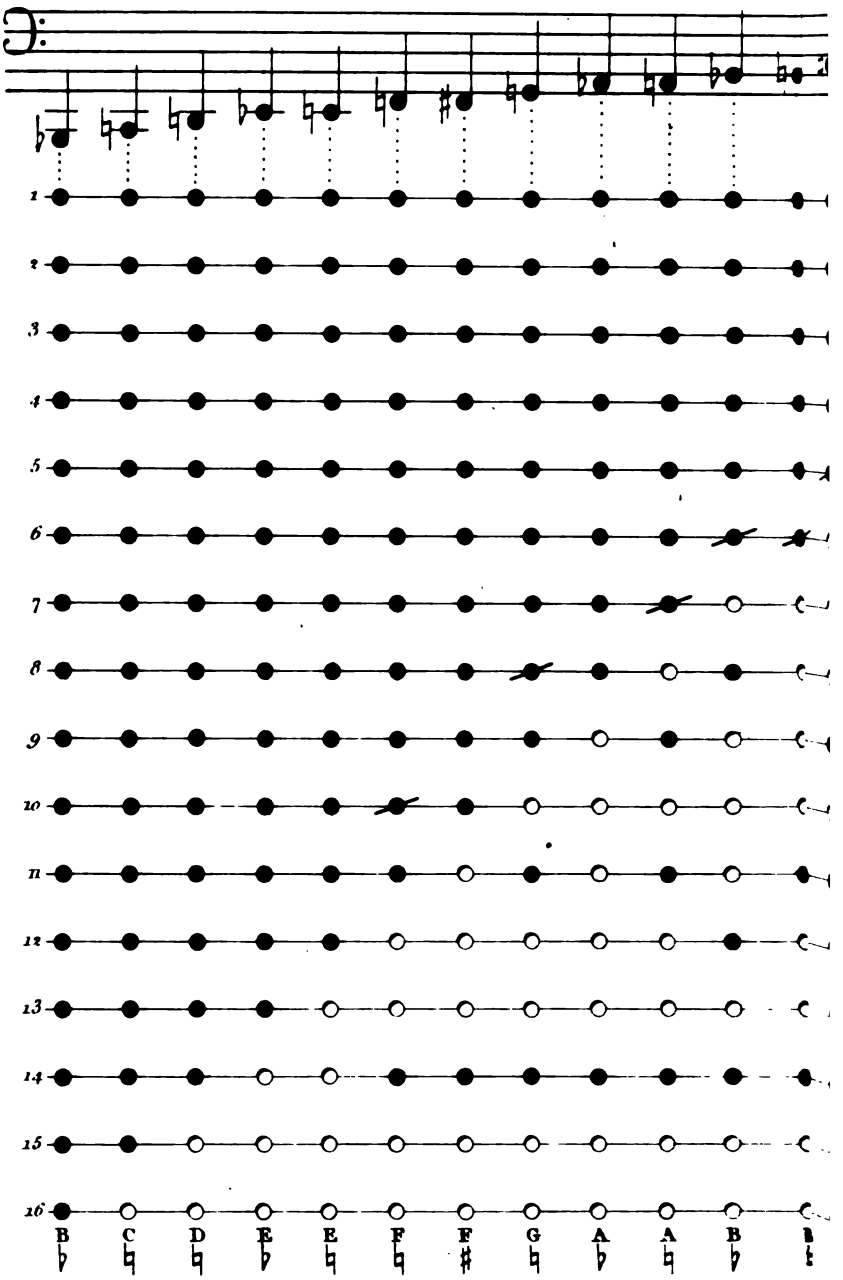
MUSIC.

SHAKES.



SCALE OF

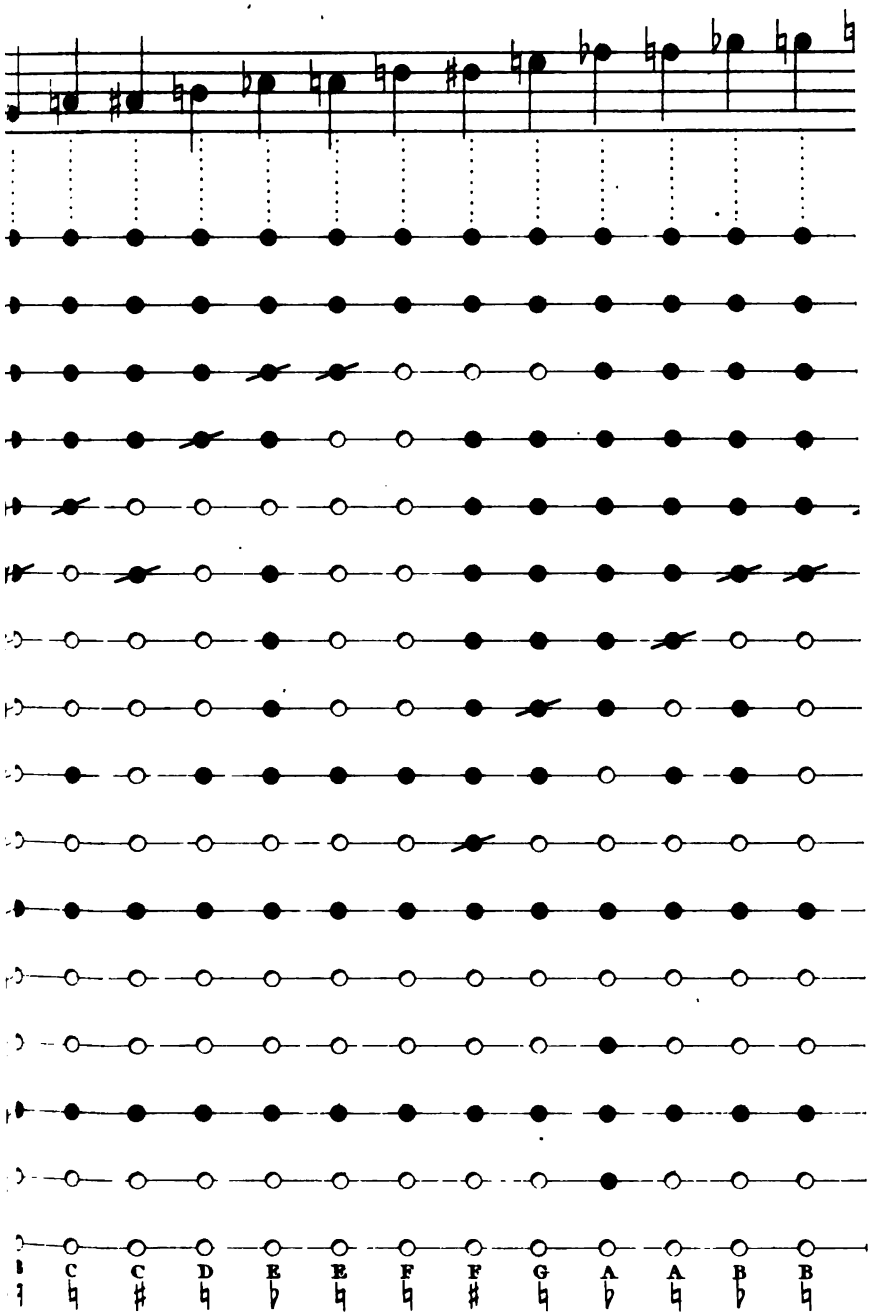


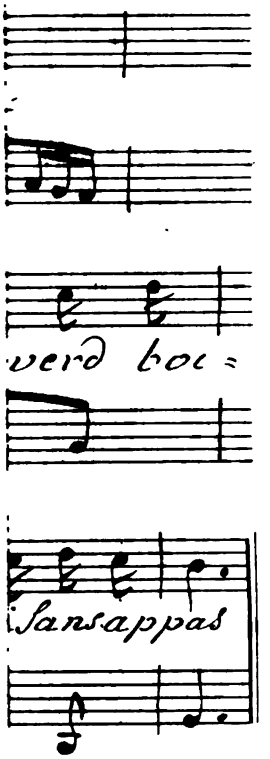


Published as the Act directs Feb.

MUSIC.

OF THE BASSOON.





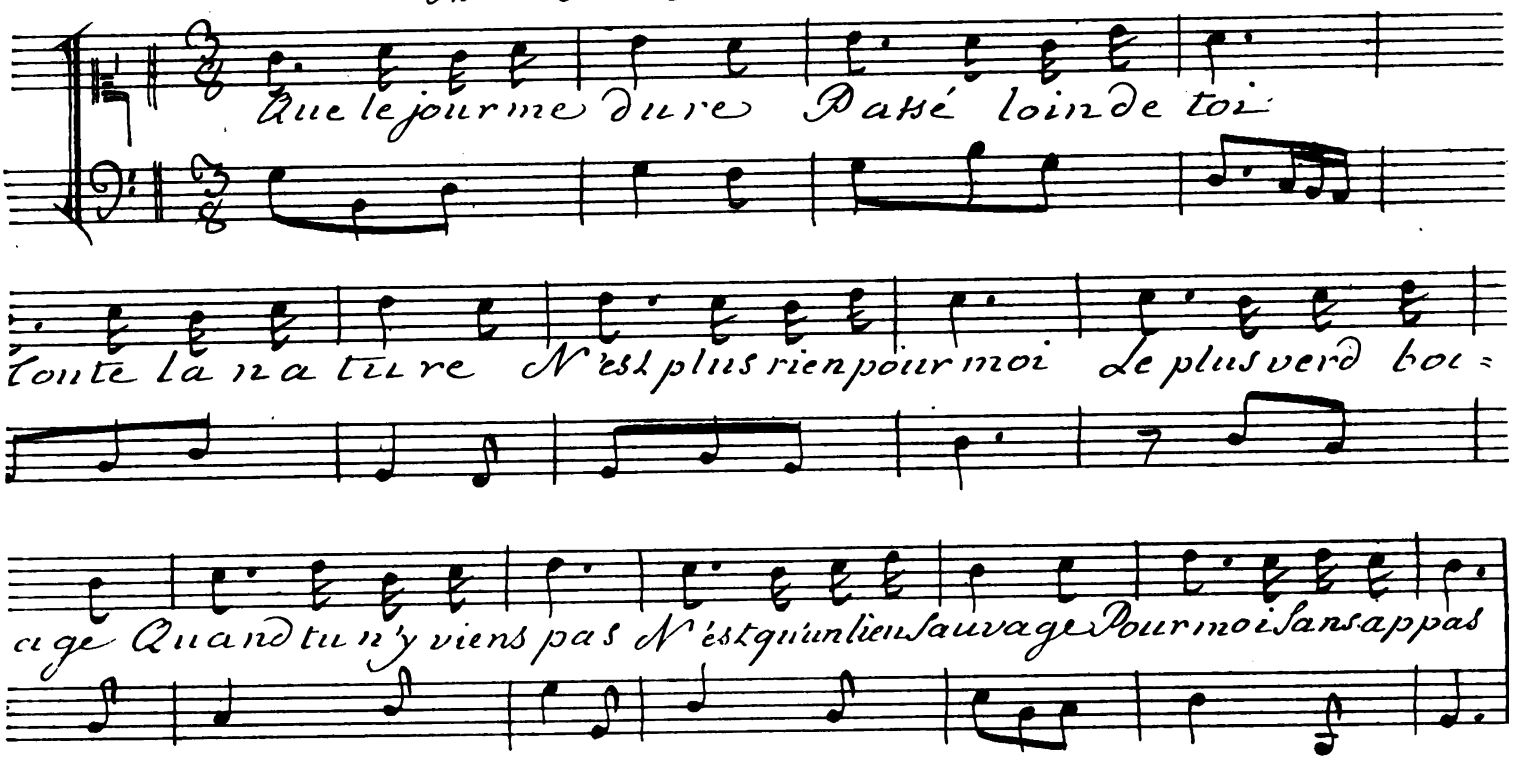
...e. 1807, by Longman, Hurst, Rees & Orme, Paternoster Row.

Air upon three Notes, sent to the Author of this Article by the late M. Rousseau in his own hand writing.

A Fac-simile

Romance

Air de trois notes.



Que le jour me dure Passé loin de toi

Toute la nature N'est plus rien pour moi Le plus verd boi=

age Quand tu n'y viens pas N'est qu'un lieu sauvage Pour moi sans appas

2.

elas! si je passe
jour sans te voir
cherche ta trace
ns mon desespoir:
and je l'ai perdue
reste à pleurer;
n ame éperdue
près d'expirer.

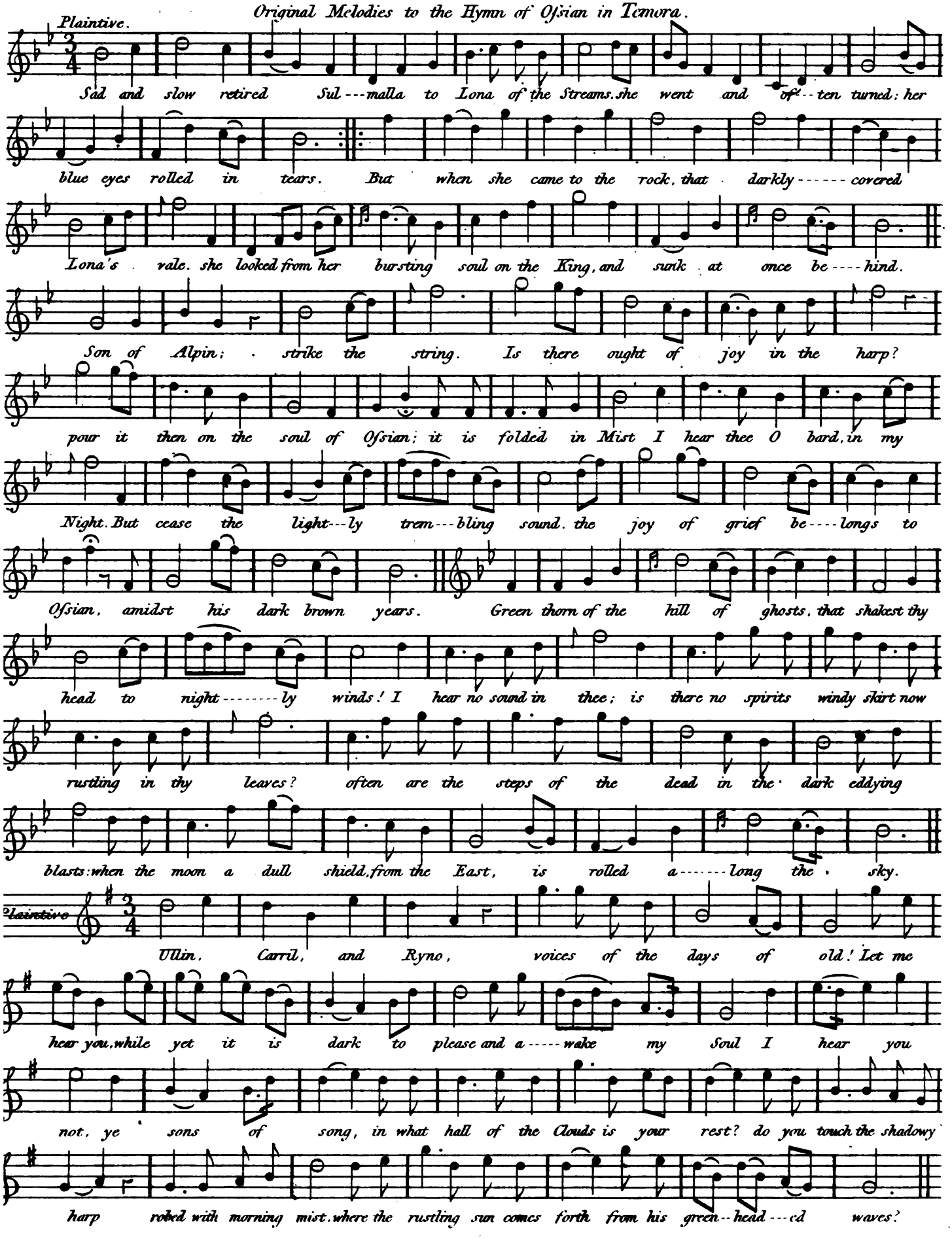
3

Le coeur me palpite
Quand j'entens ta voix:
Tout mon sang s'agite
Dès que je te vois.
Ouvres-tu la bouche
Les Cieux vont s'ouvrir;
Si ta main me touche,
Je me sens frémir.

Published as the Act directs March 1st 1807 by Longman Hurst Rees & Orme Paternoster Row.

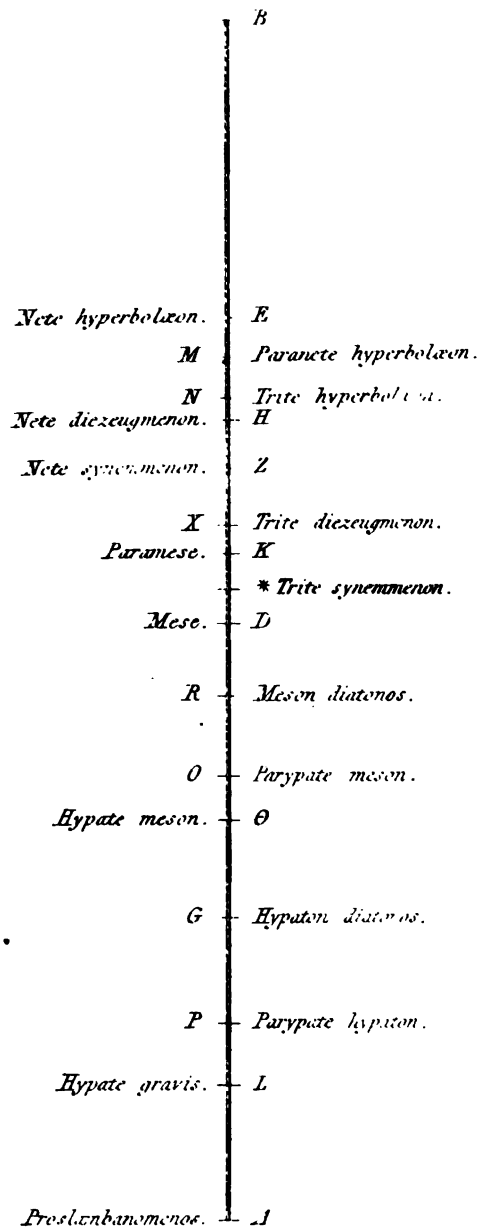
MUSIC.

Original Melodies to the Hymn of Ossian in Temora.



EVCLIDIS SECTIO CANONIS.

See the Article Euclid

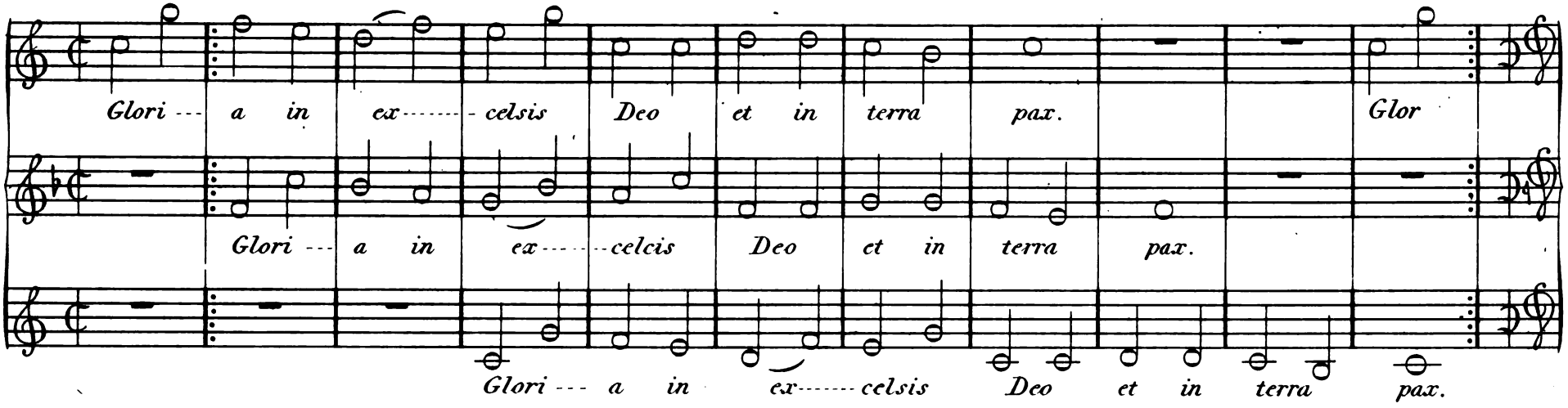


Published as the Act directs April 1st 1808 by Longman Hurst Rees & Orme Paternoster Row.

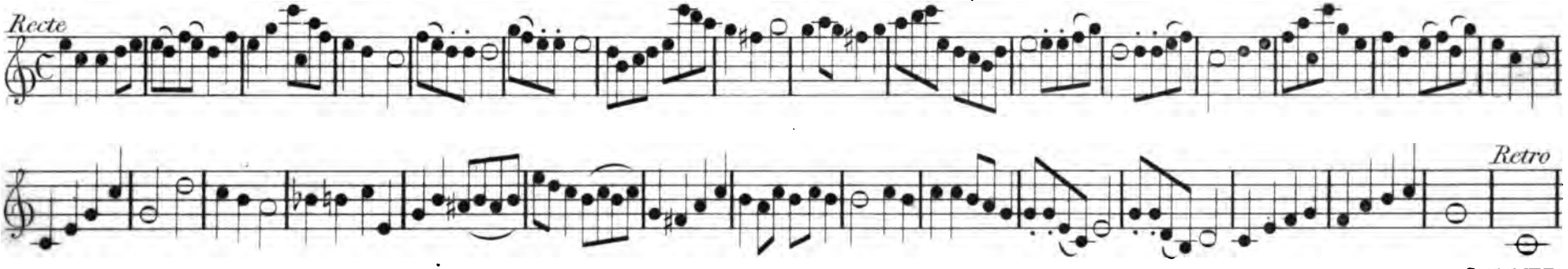
MUSIC.

Canon in ogni modo: recte, retro, ed a rovescio.

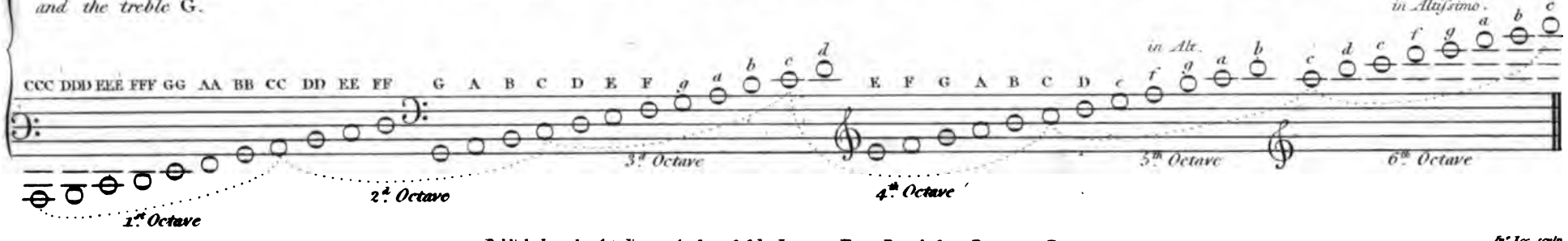
In this kind of Counterpoint, there must be no pointed notes, rests, accidental flats, sharps, naturals or tritones, in the melody; nor discords, appogiaturas or passing notes in the harmony; neither does this kind of composition admit of minor Keys.



Canone Cancherizando; in which the base begins at the end, and moves backwards like a Crab.



The complete set of Keys on the Piano Forte in present use, with additional keys at the bottom as well as the top. N.B. No Clifs are used in this complete GAMMUT or Scale of appreciable sounds, except the base and treble, which are removable to different lines. But on whatever line the base Clif is placed, it makes that line F, *and the treble* G.



Published as the Act directs, April 11 1808 by Longman Hurst, Rees & Orme, Paternoster Row.

Sc. Lee sculp.

1. *A Timbrel, or Tambour de Basque.*
2. *A Citharistria, or female minstrel.*
3. *A double Lituus.*
4. *Pan playing on the Syrinx.*
5. *A Bacchanal playing on two Flutes of the same pitch: Tibiæ pares.*
6. } *Antique Theatrical Masques.*
7. }
8. *A genuine ancient metalline Lituus.*

Published as the Act directs Jan.ʸ 1ˢᵗ 1803 by Longman & Rees Paternoster Row

ANCIENT MUSICAL INSTRUMENTS & MASKS.

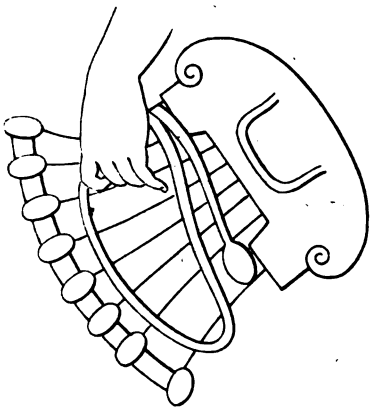
1

3

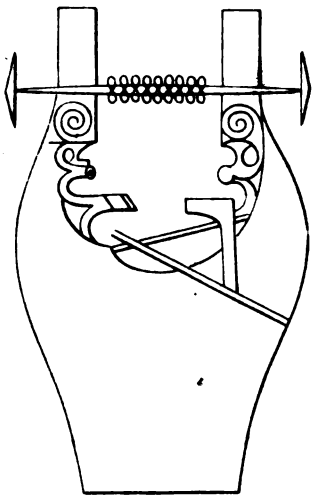
2

4

6



5



1. *A Beautiful Greek Barbiton, or Harp, from a bas-relief, a Cast of which is in the Royal Academy; An Antique Marble in the British Museum has a similar Barbiton, the Greek Vases &c. furnish similar examples.*
2. *A Mask of the Hercules furens of Euripides from a Marble in the Palace Albani in Rome.*
3. *A Mask of Thais from Terence's play of the Eunuchs in the Illuminated Vatican MS. of his Comedies.*
4. *This figure is in the 42nd Plate of the 4th Vol. of the Herculaneum Paintings.*
5. & 6. *Lyres from Sr. Wm. Hamiltons last Collection of Vases.*

Published as the Act directs, June 1, 1803, by Longman & Rees, Paternoster Row.

ANCIENT MUSICAL INSTUMENTS.

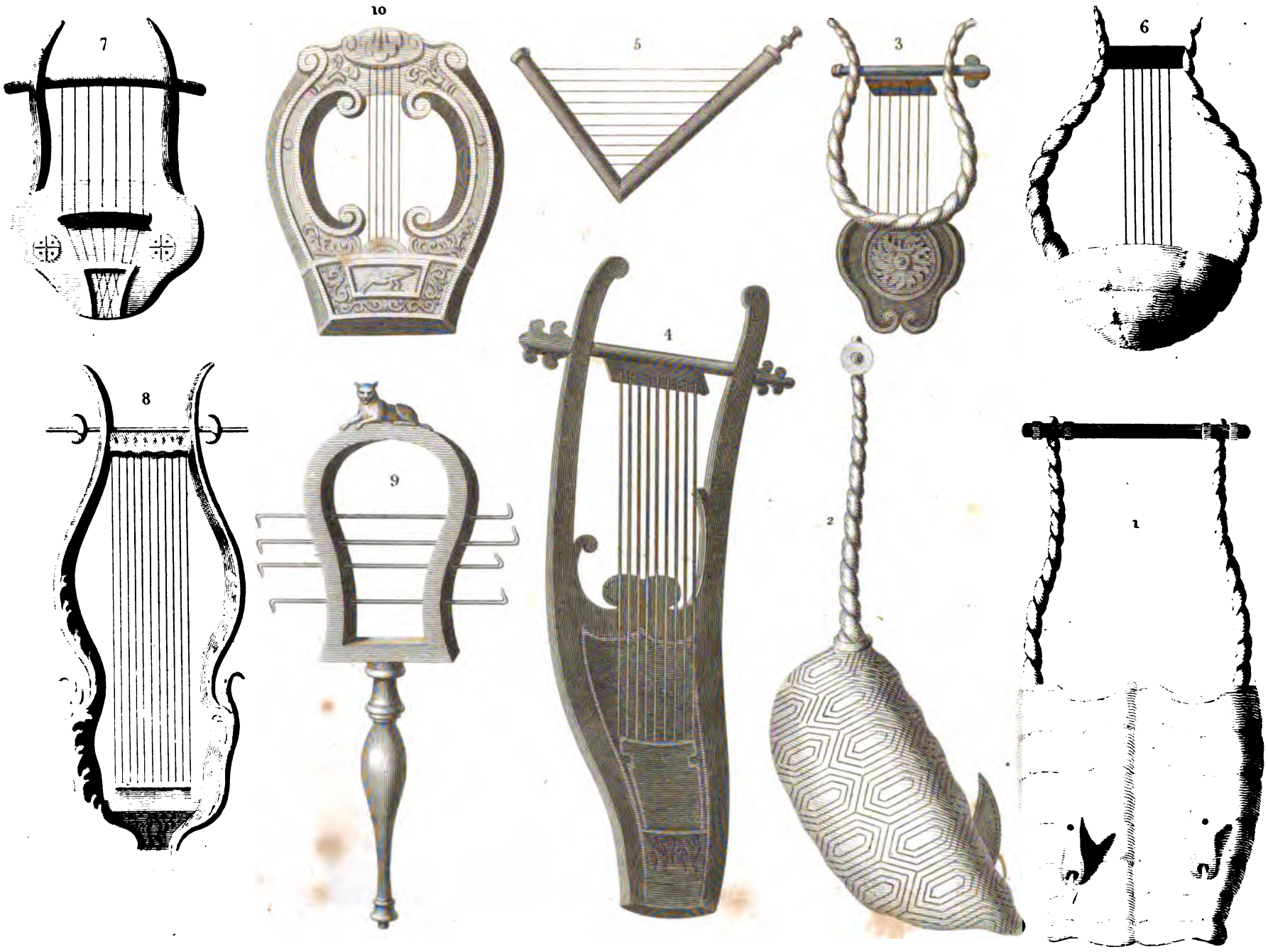
2.2 & 3 are all taken from the same piece of Ancient sculpture, in the Ghigi Palace at Rome, representing a Group of Musicians performing an Epithalamium.

4. The Tuba or long Trumpet, called by the Hebrews, the Trumpet of the Jubilee; to be seen on the Arch of Titus, and on Trajan's Pillar.

5. Cupid playing on a double Flute or Tibiæ pares, from an Ancient painting in the Museo at Portici.

6.7.8.9 & 10 From Egyptian paintings in the Tombs of the Kings of Thebes &c. — Denon Pl. 35 — N.os 26.27.29.30 & 31.

Published as the Act directs, May 2, 1804, by Longman & Rees, Paternoster Row.



1 & 2. *The Testudo or Lyre of Amphion in front & profile as it appears on the base of the Toro Farnese at Rome.*
3. *The Lyre held by Terpsichore in the Picture of that Muse dug out of Herculaneum.*
4. *The Psaltery as delineated in the Picture of the Muse Erato dug out of Herculaneum.*
5. *A Trigonium or Triangular Harp from an ancient Painting in the Museum of the King of Naples.*
6. *The Abyssinian Testudo from a Drawing by Mr. Bruce.*
7. *An Etruscan Lyre with 7 Strings.*
8. *A Lyre in the Ancient Picture dug out of Herculaneum, on which Chiron is teaching the young Achilles to play.*
9. *An Egyptian Systrum.* 10. *An Ancient Lyre richly ornamented.*

INSTRUMENTS OF MUSIC.

INDIAN MUSICAL INSTRUMENTS.

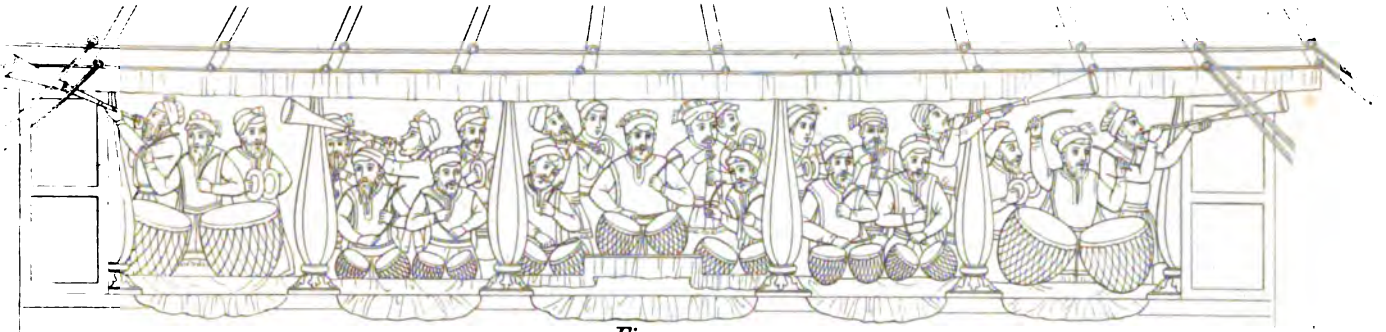


Fig. 1.

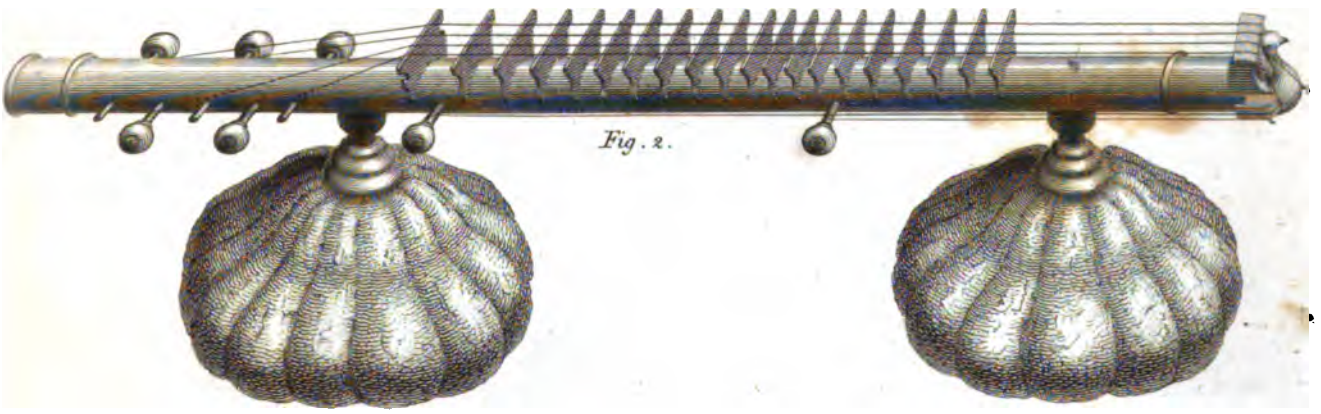


Fig. 2.

Fig. 1. From an original Indian Painting.

Fig. 2. The Been, an Indian Musical Instrument, as described by Sir William Jones, in a discourse on the subject, in the Asiatic Researches Vol. 1. P. 295.

Published as the Act directs, Sept.r 2.d 1805. by Longman, Hurst, Rees & Orme, Paternoster Row.

Jn.o Lee sculp.

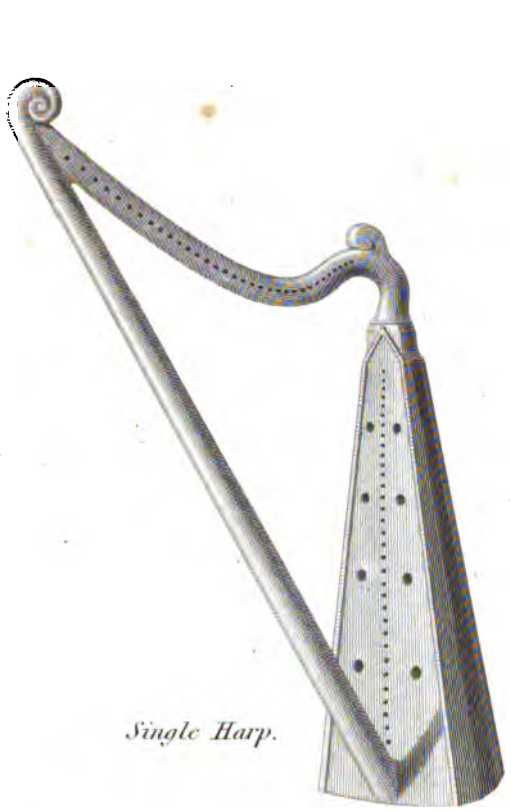
PANDEAN MINSTRELS, IN PERFORMANCE AT VAUX-HALL.

E. Burney del. Jn.r Lee sculp.

Published as the Act directs. Dec.r 1.st 1806. by Longman Hurst Rees & Orme. Paternoster Row.

MUSICAL INSTRUMENTS.

WELSH HARPS.



Single Harp.

Ancient Triple Harp.

Modern Triple Harp.

Published as the Act directs April 1. 1808 by Longman, Hurst, Rees, & Orme, Paternoster Row.

MUSICAL INSTRUMENTS.

ORIGIN OF THE BOW.

9.4

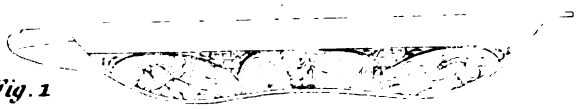


Fig. 1

Fig. 2

Fig. 3

Fig. 5

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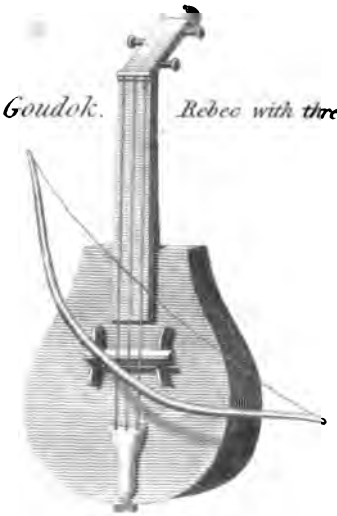
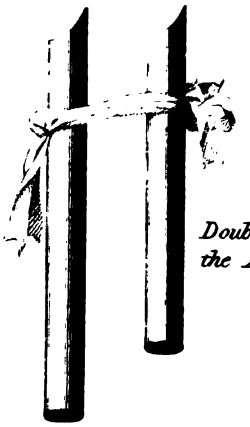
RUSSIAN MUSICAL INSTRUMENTS.

From the Russian Antiquities, by M. Guthrie, Physician to the late Empress Catherine.



Goudok. *Rebec with three Strings.*

Gélaika.



Double Flutes of the Ancients.

Corne de chasse de Siberie, ou Rok. *Hunting Horn of Siberia.*

Rojok.

Batalaika. *Guitar with two Strings.*

Published as the Act directs, April 11th 1808, by Longman Hurst, Rees & Orme, Paternoster Row

Jn.e Lee sculp.

MUSICAL INSTRUMENTS.

HARPS.

Fig. 1.

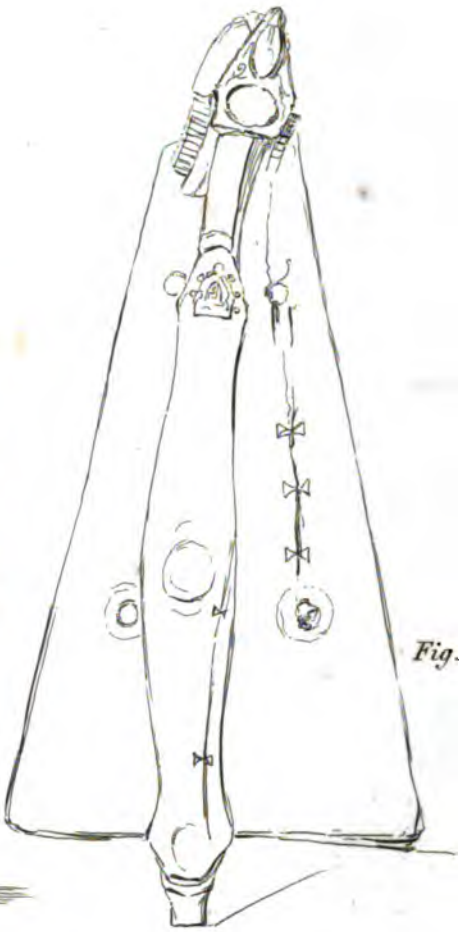


Fig. 2.

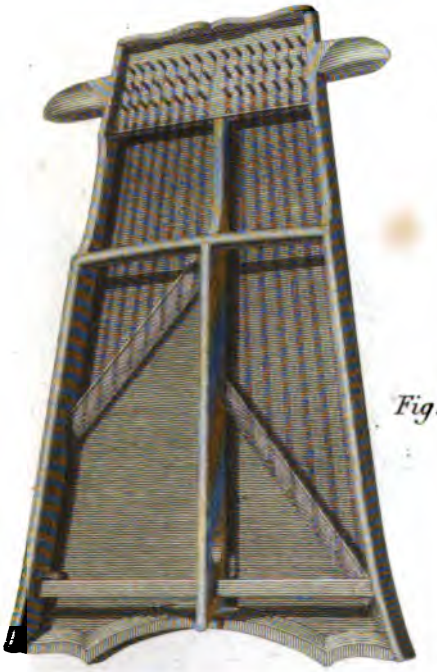


Fig. 4.

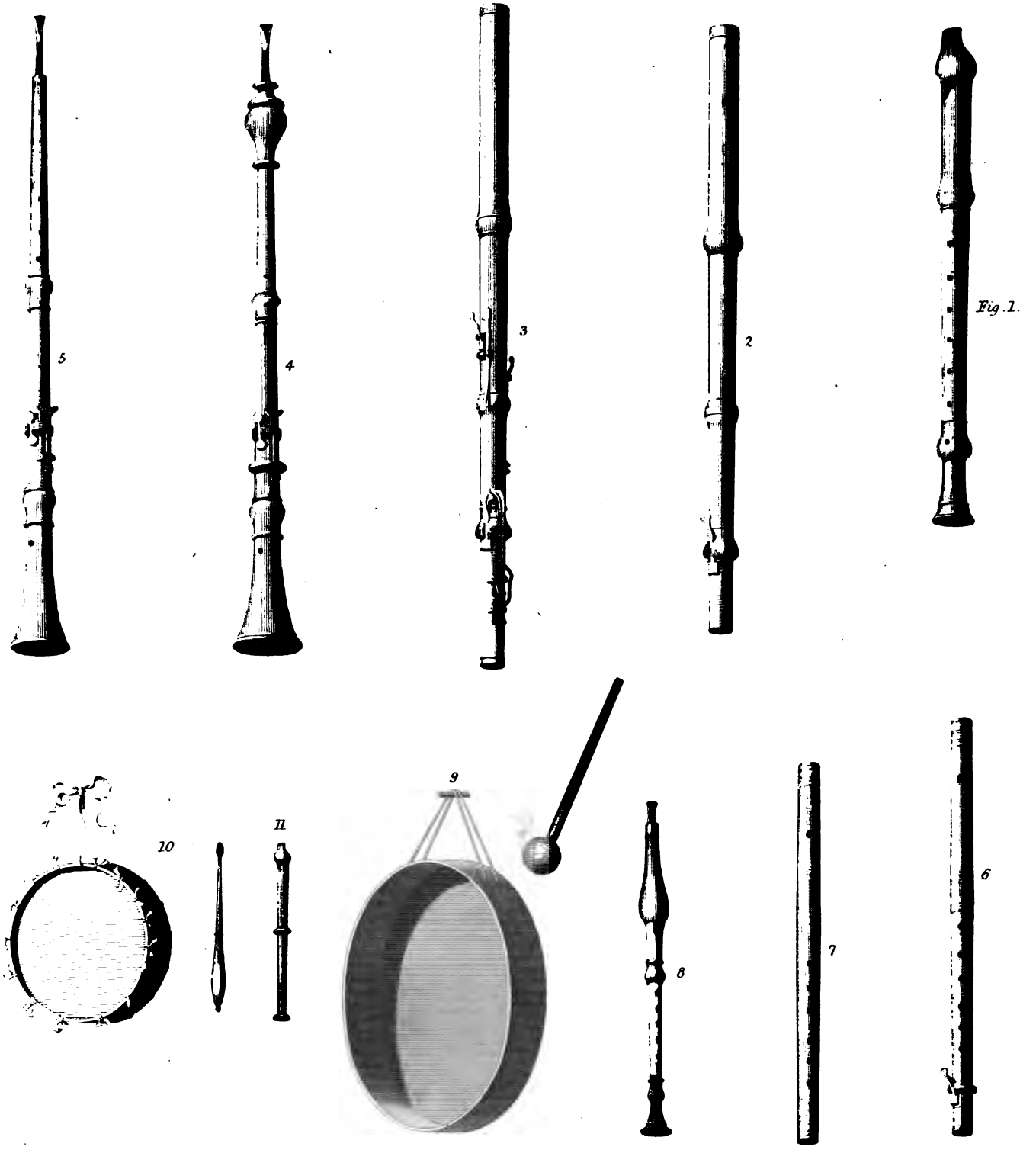
Fig. 3.

Fig. 1 & 2. The Harp of Brian Boromh. height 32 In. In the University of Dublin.

Fig. 3. Silver Prize Harp. height 6¼ In. In the poſseſsion of Dr. Burney.

Fig. 4. Bell Harp. height 21 In. In the poſseſsion of Mr. Jones.

MUSICAL INSTRUMENTS.



Scale to Figs. from 1 to 8.

0 1 2 3 4 5 6 7 8 9 10 11 12 Inches

1. English Common Flute
2. German Flute
3. Improved German Flute with additional Keys
4 & 5. Hautboys
6. B Fife
7. C Fife
8. English Flageolet
9. Gong
10 & 11. Tabour & Pipe

Jn. Lee sculp.

Published as the Act directs, Oct. 11. 1811 by Longman Hurst Rees, Orme & Brown, Paternoster Row

MUSICAL INSTRUMENTS.

Fig.s 1 & 2 Hunting Horns. 3 Serpent. 4 French Horn. 5 Bugle. 6 Sackbut or Trombone.

Published as the Act directs Nov.r 1.st 1811 by Longman Hurst Rees Orme & Brown Paternoster Row.

MUSICAL INSTRUMENTS.

Fig. 1

Fig. 2

Fig. 3

Fig. 1 Arch Lute height 5 F. 8 In. In the Collection of the late Mr. D. Walker. Fig. 2 Mandoline the distance from Bridge to Nut same as Violin 13 In. Fig. 3 Mandola varies in length from Bridge to Nut according to its pitch.

Foster delin. Jn. Lee sculp.

Published as the Act directs Decr. 1.1811 by Longman Hurst Rees Orme & Brown Paternoster Row

MUSICAL INSTRUMENTS.

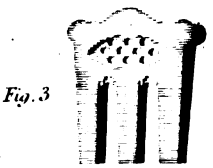


Fig. 3

Fig. 1

Fig. 2

Fig. 4

Fig. 5

Fig. 6

Fig. 1 & 2 Violin and Bow. Fig 3 Sordine or Mute. Fig. 4 Violoncello.

Fig. 5 Violino Piccola or Kit. Fig. 6 Viol de Gamba of the 16th Century.

MUSICAL INSTRUMENTS.

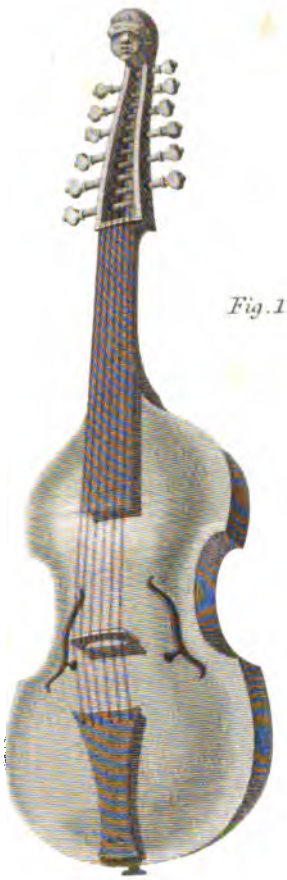


Fig. 1

Fig. 2

Fig. 3

Fig. 4

	F	In
Fig. 1 Viol d Amour height	2	4
Fig. 2 Mandore		
Fig. 3 Spanish Guitar height	3	1
Fig. 4 Lute	3	8

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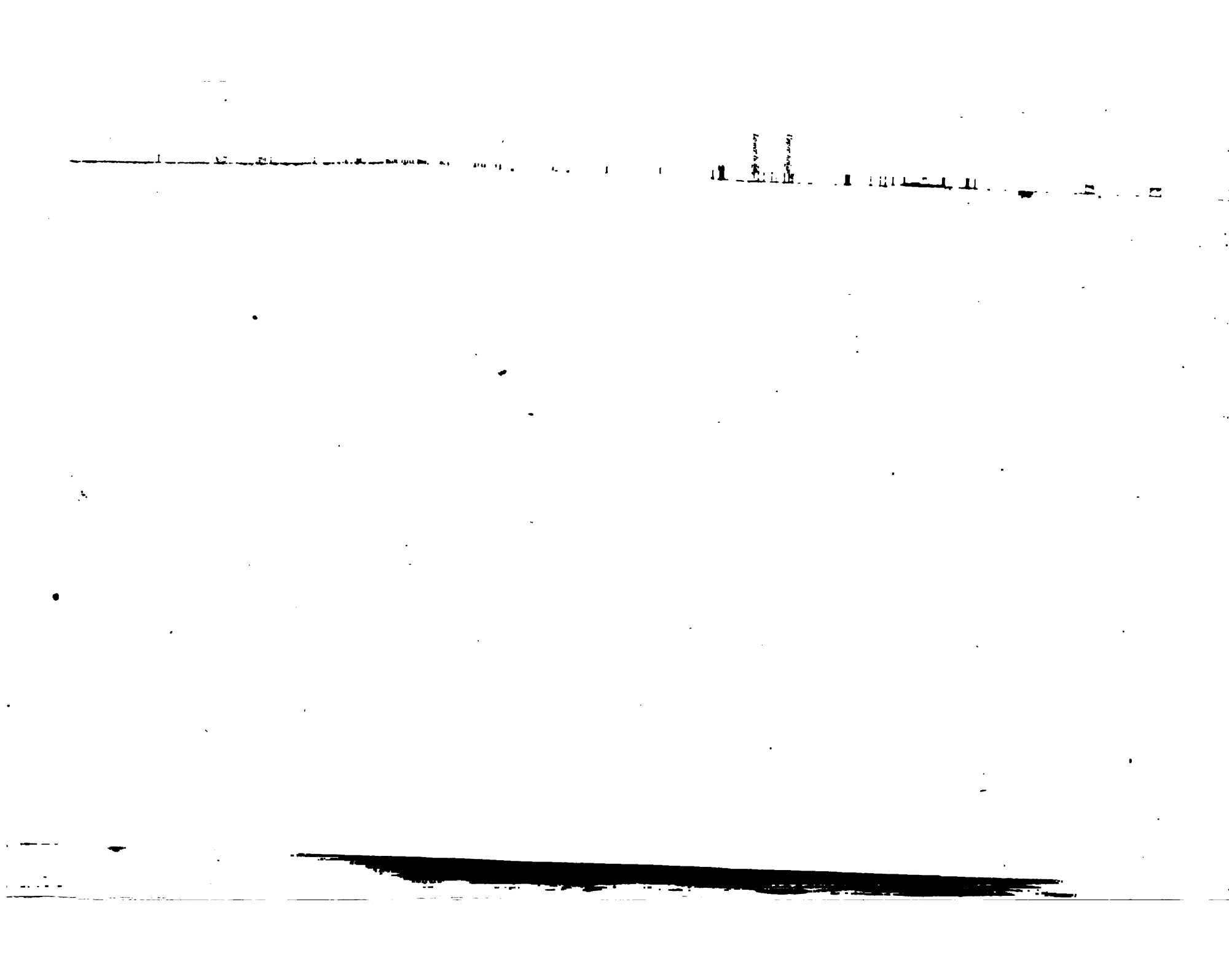
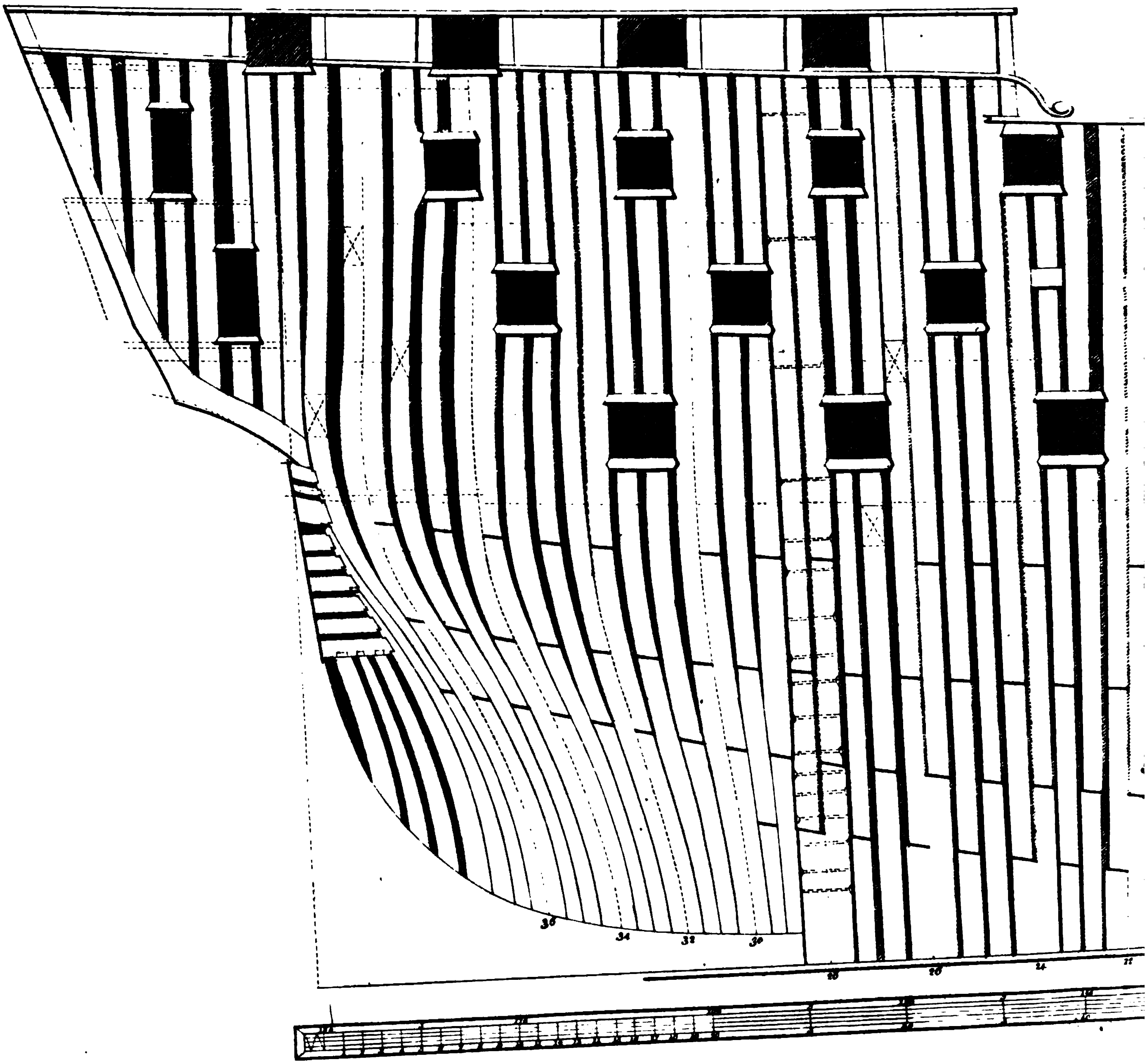
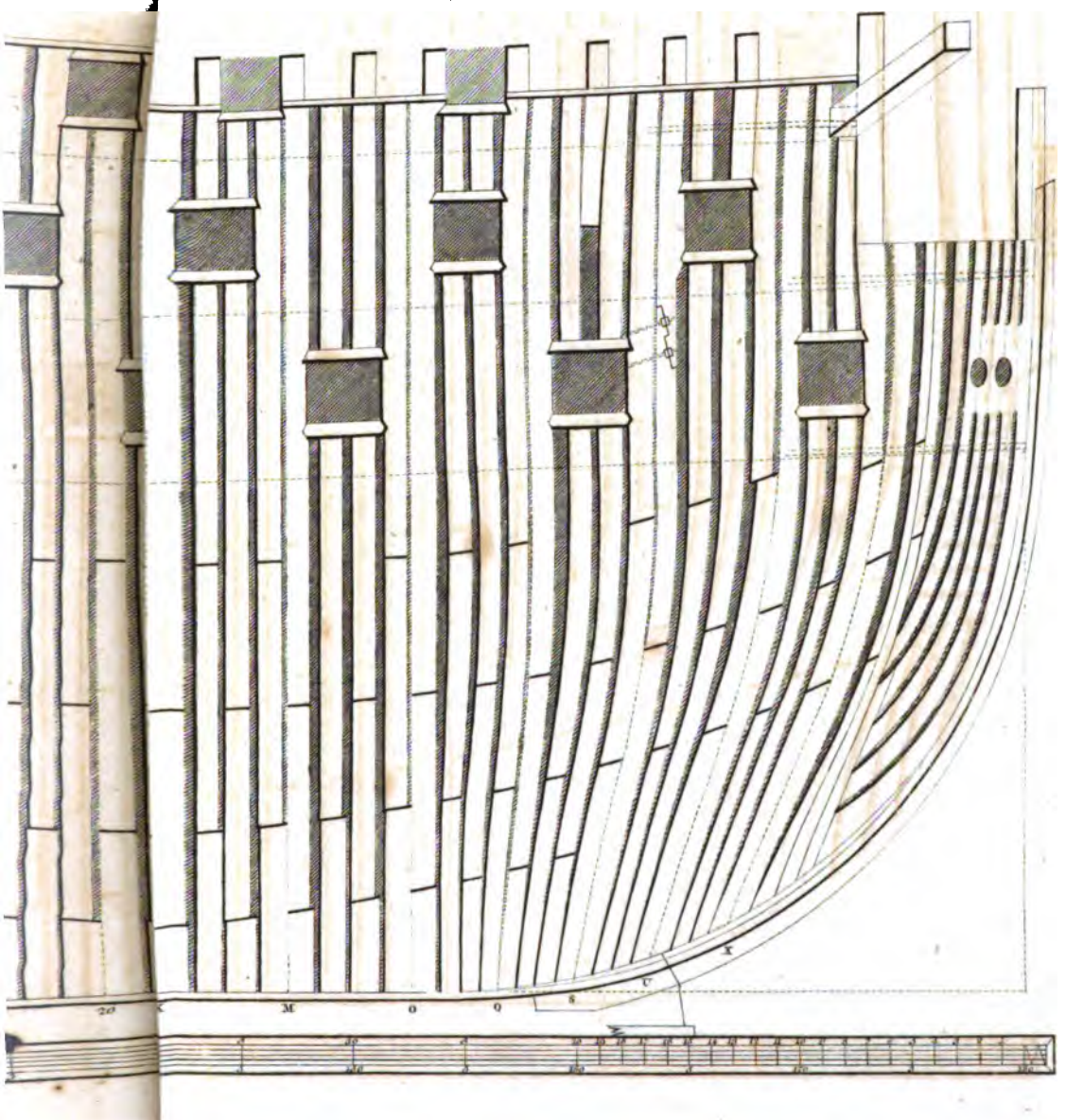


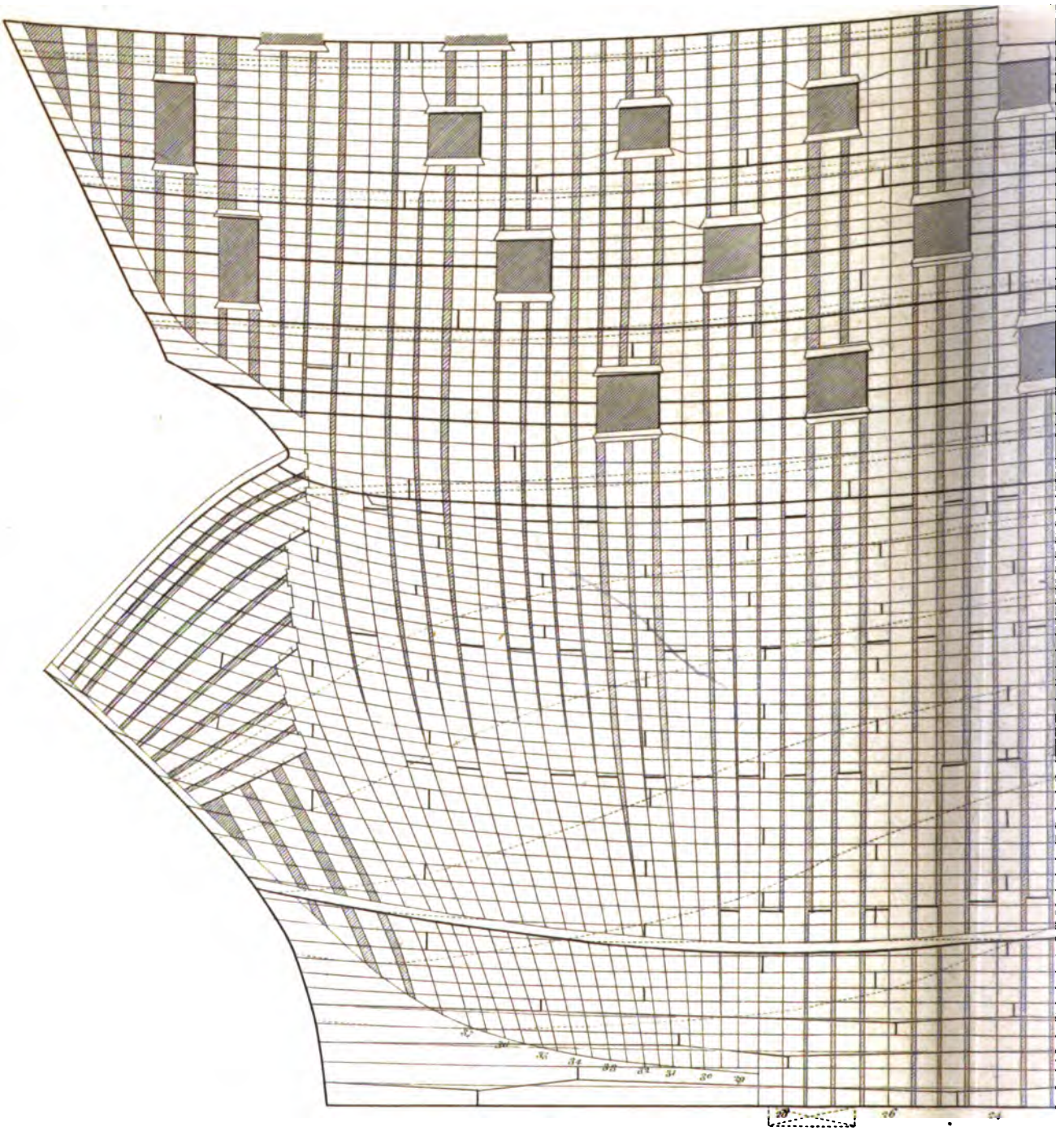


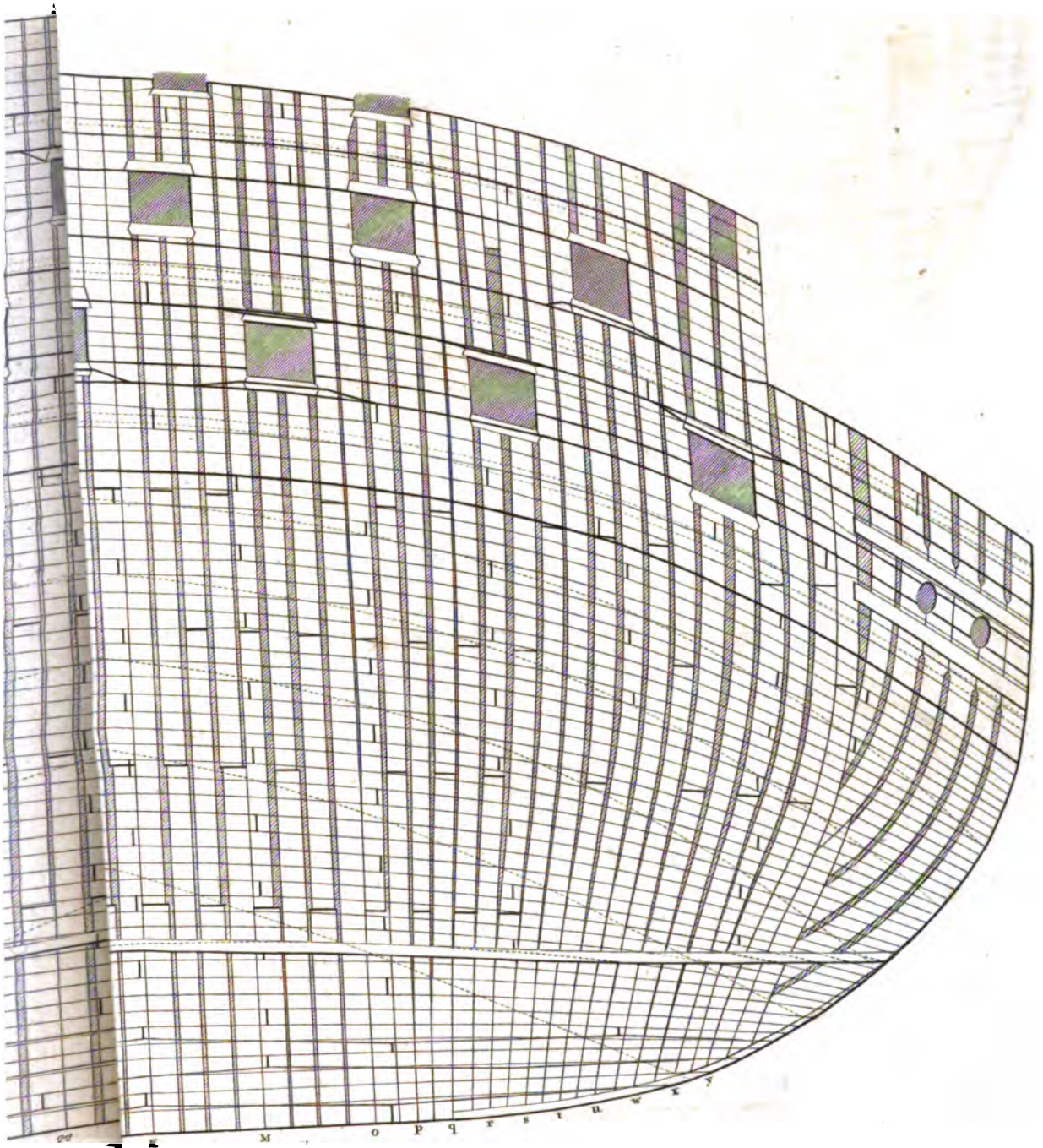
I Glover del.

PLATE II.

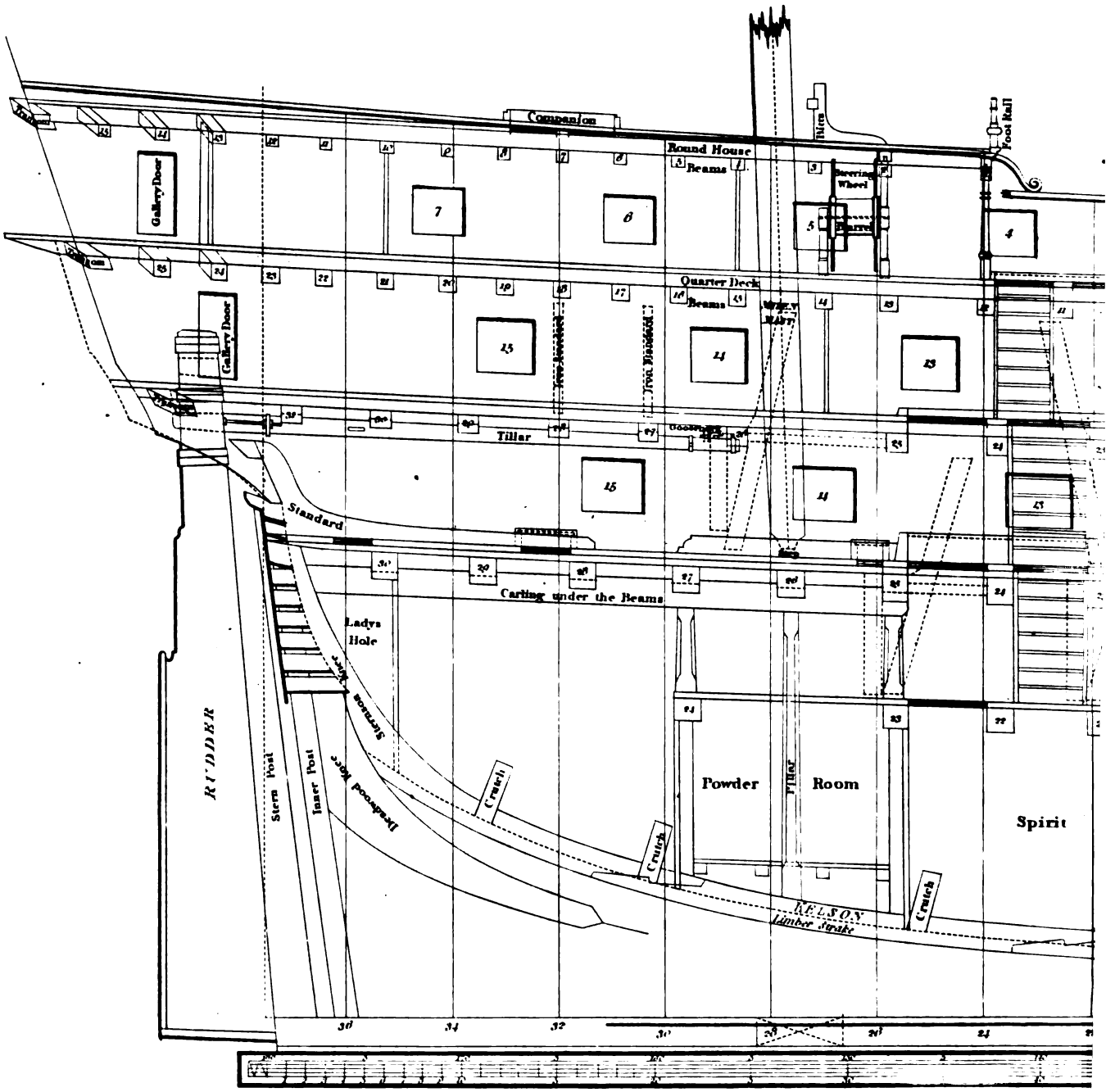


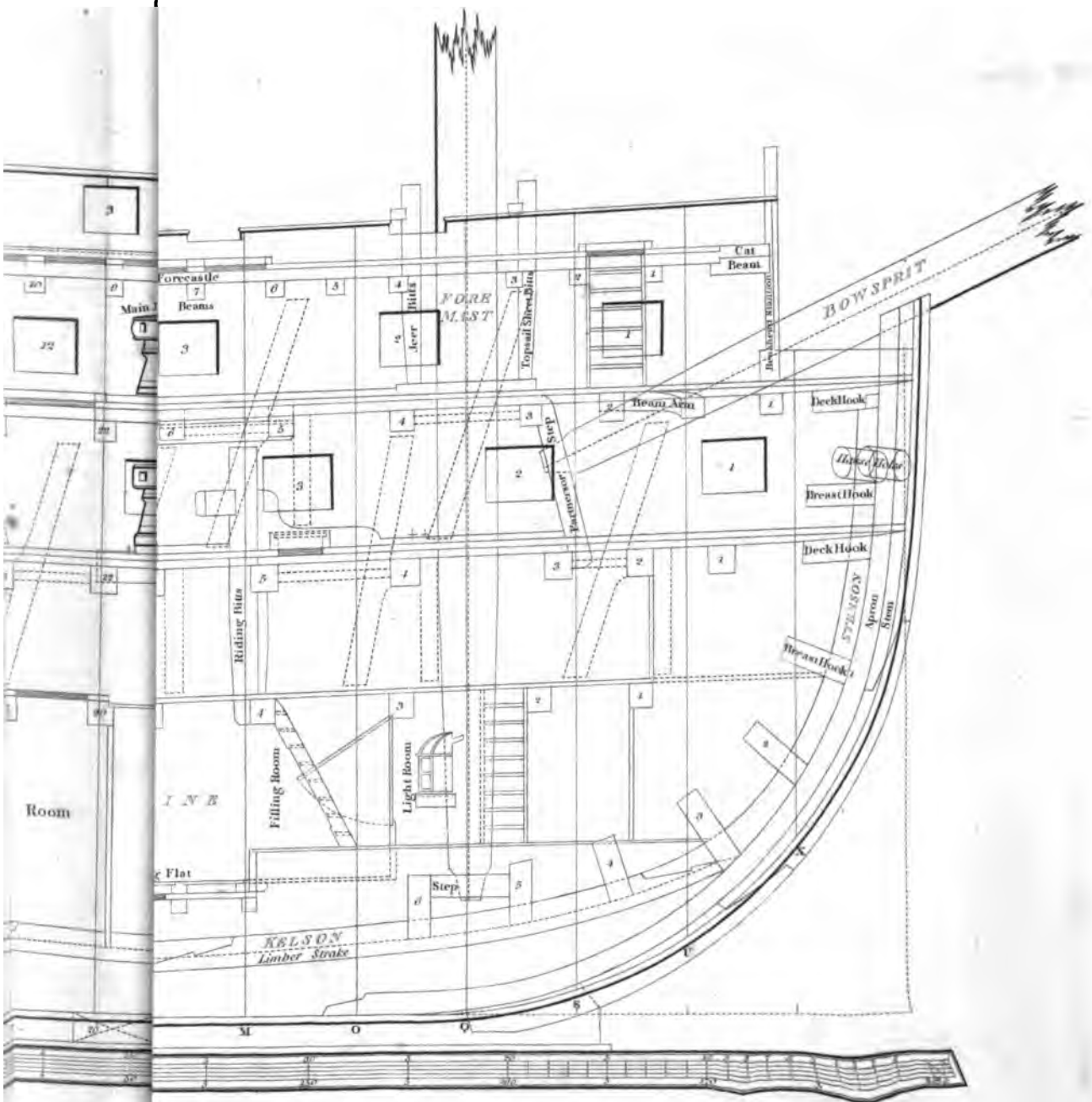
T. Milton sculp.





Milton sculp.


Companion
Round House
Beams
Hitts
Foot Rail
Gallery Door
Steering Wheel
Quarter Deck
Beams
Gallery Door
Tillar
Standard
Carling under the Beams
Ladys Hole
Sternson Knee
Headwood Knee
RUDDER
Stern Post
Inner Post
Crutch
Crutch
Crutch
Powder Room
Tillar
Spirit
NELSON
Limber strake



Forecastle
Beams
Main
FORE MAST
Jeer Bitts
Topsail Sheet Bitts
Cat Beam
BOWSPRIT
Beam Arm
Deck Hook
Hawse Holes
Breast Hook
Deck Hook
STENSON
Apron
Stem
Breast Hook
Partnerson Step
Riding Bitts
Filling Room
Light Room
Room
Flat
Step
KELSON
Limber Strake
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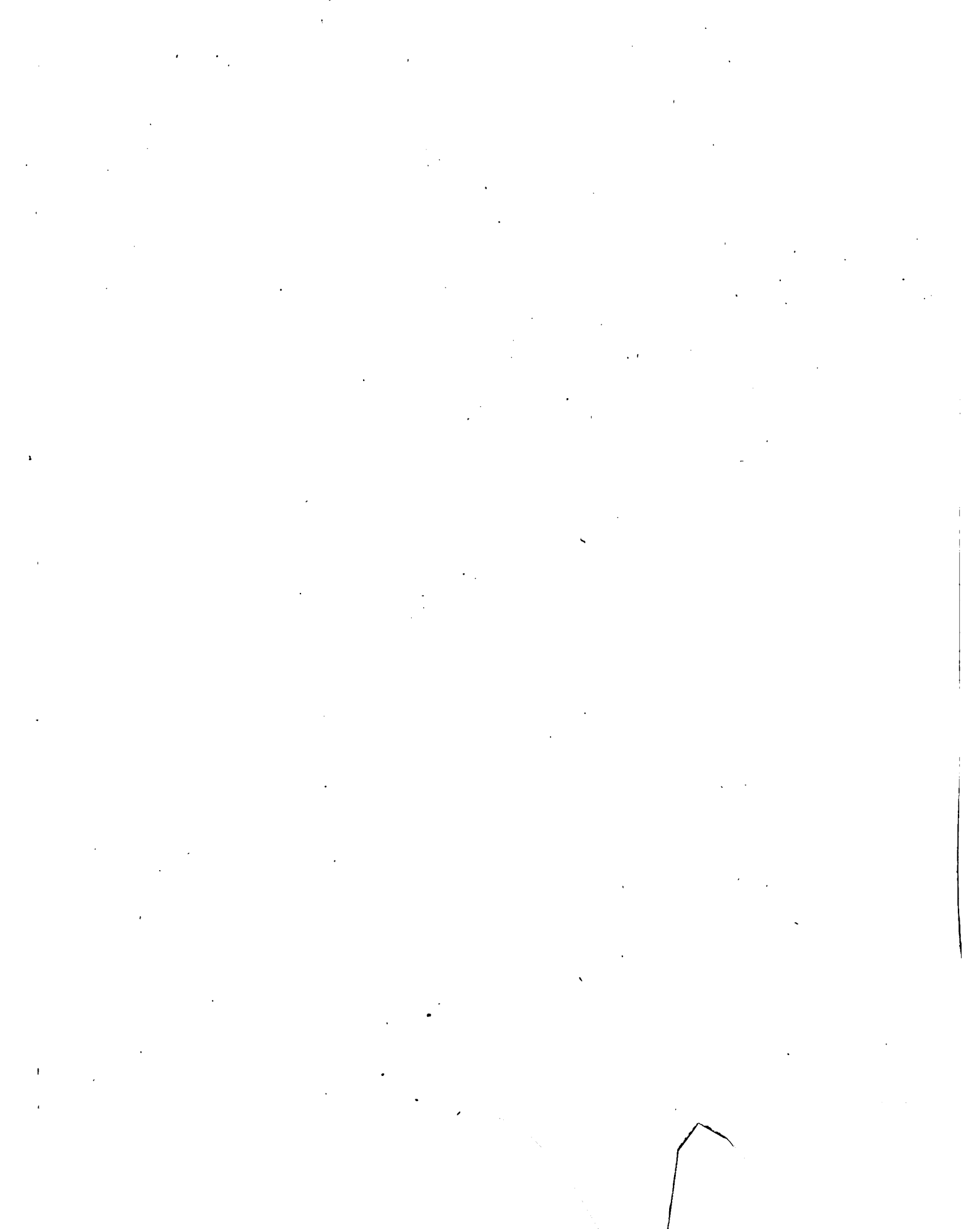
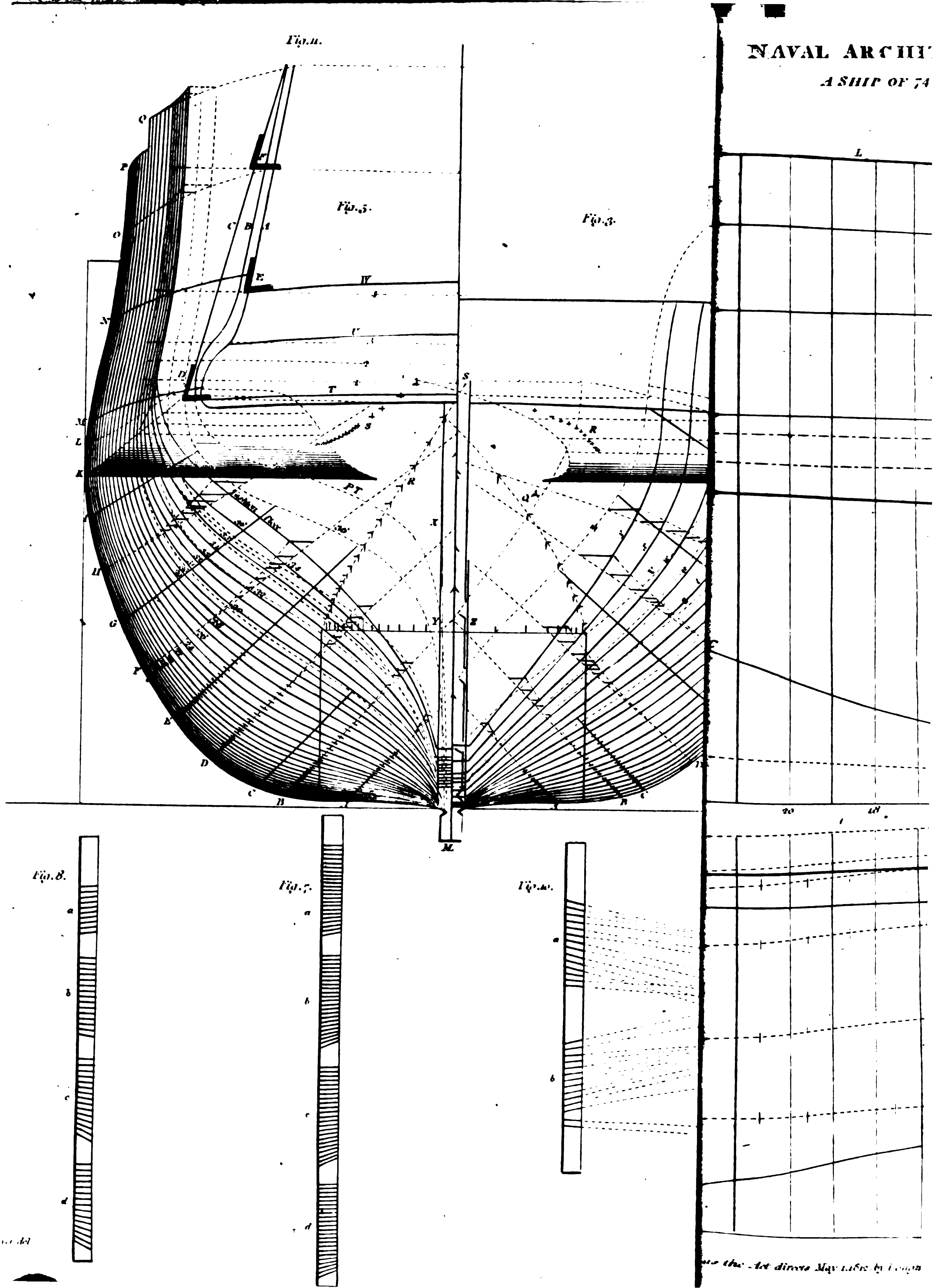
O
Q
S
U
X





NAVAL ARCHI
A SHIP OF 74
Fig. 11.
Fig. 5.
Fig. 3.
Fig. 8.
Fig. 7.
Fig. 10.

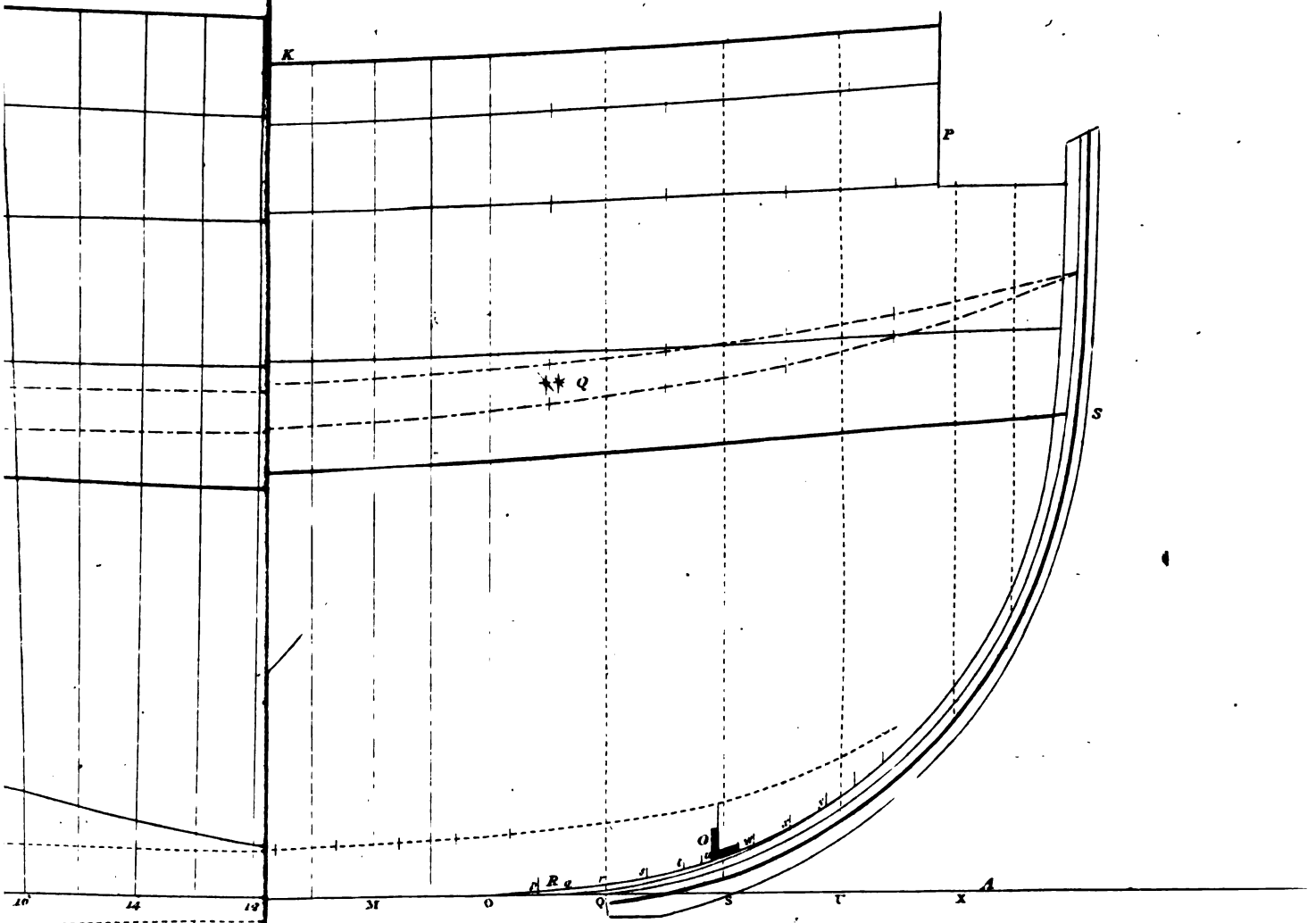
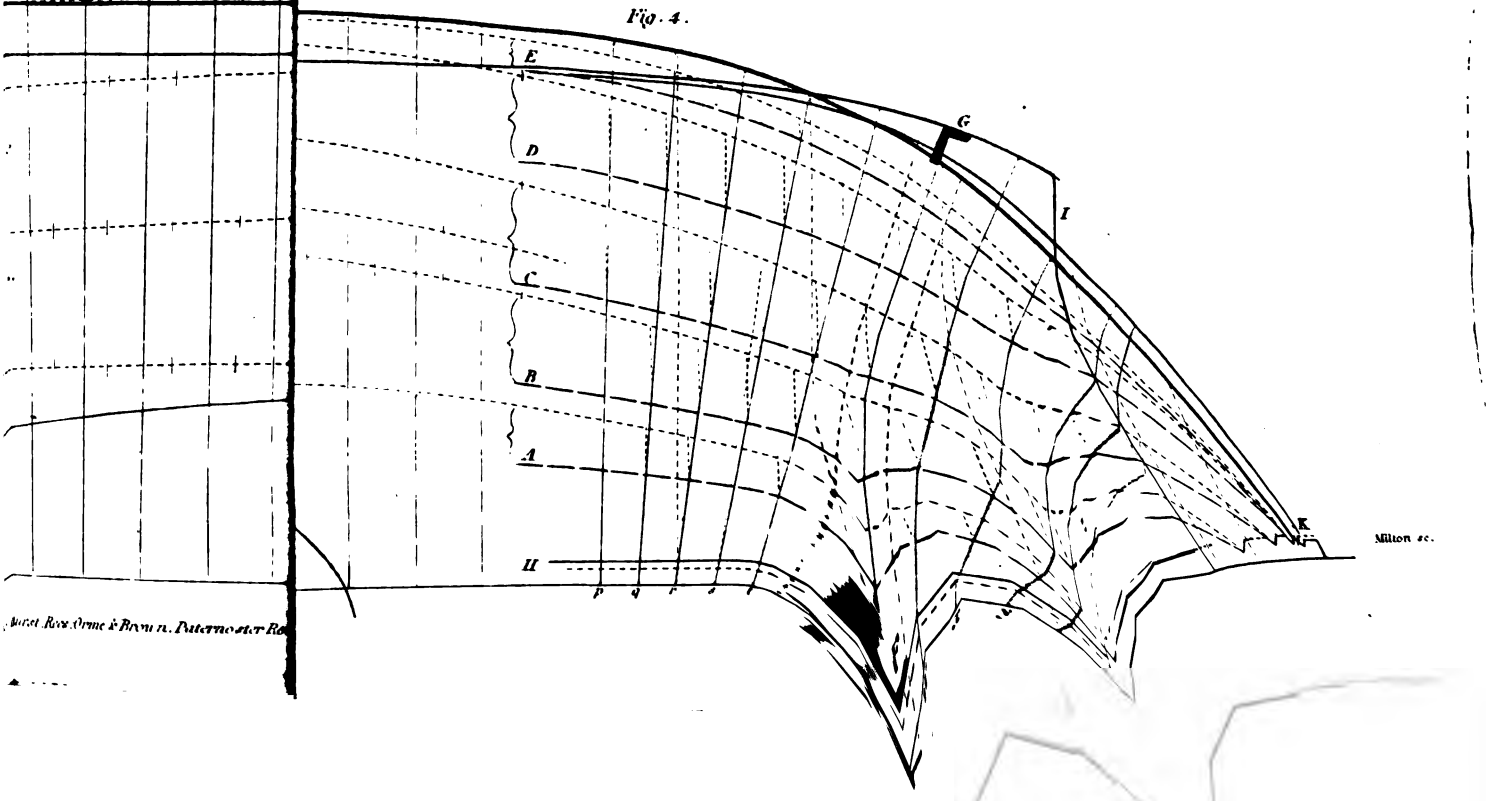
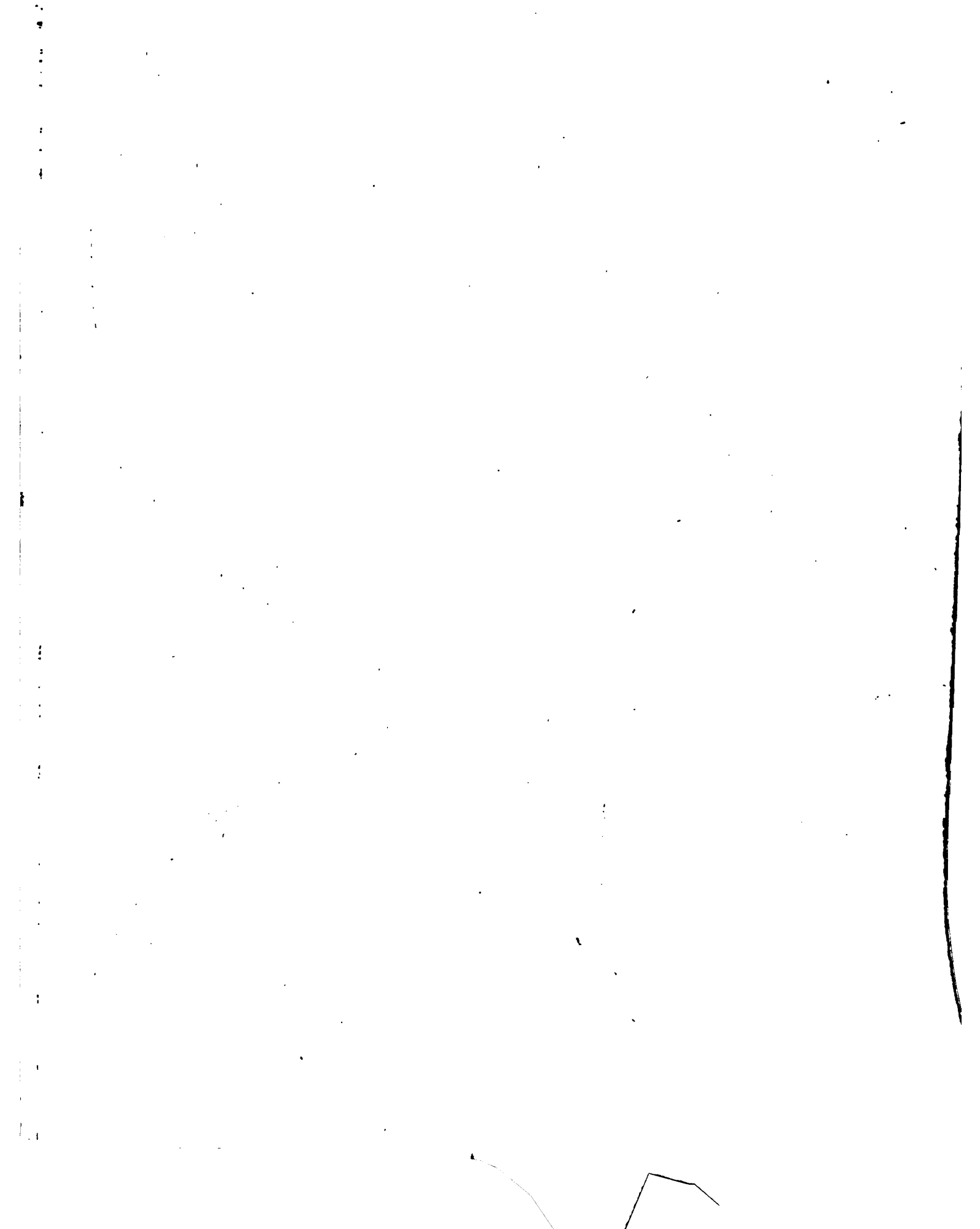


Fig. 4.





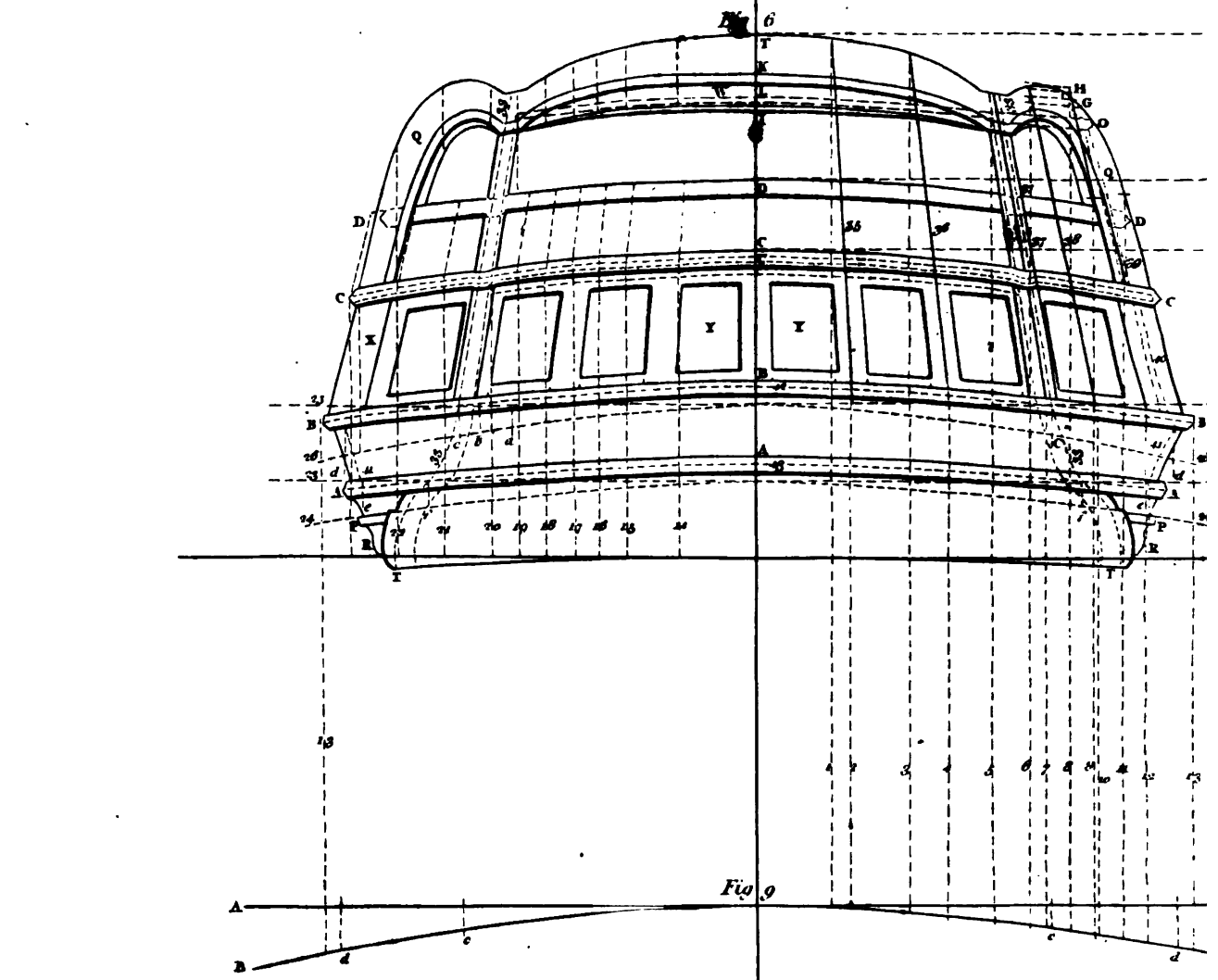


Fig 9

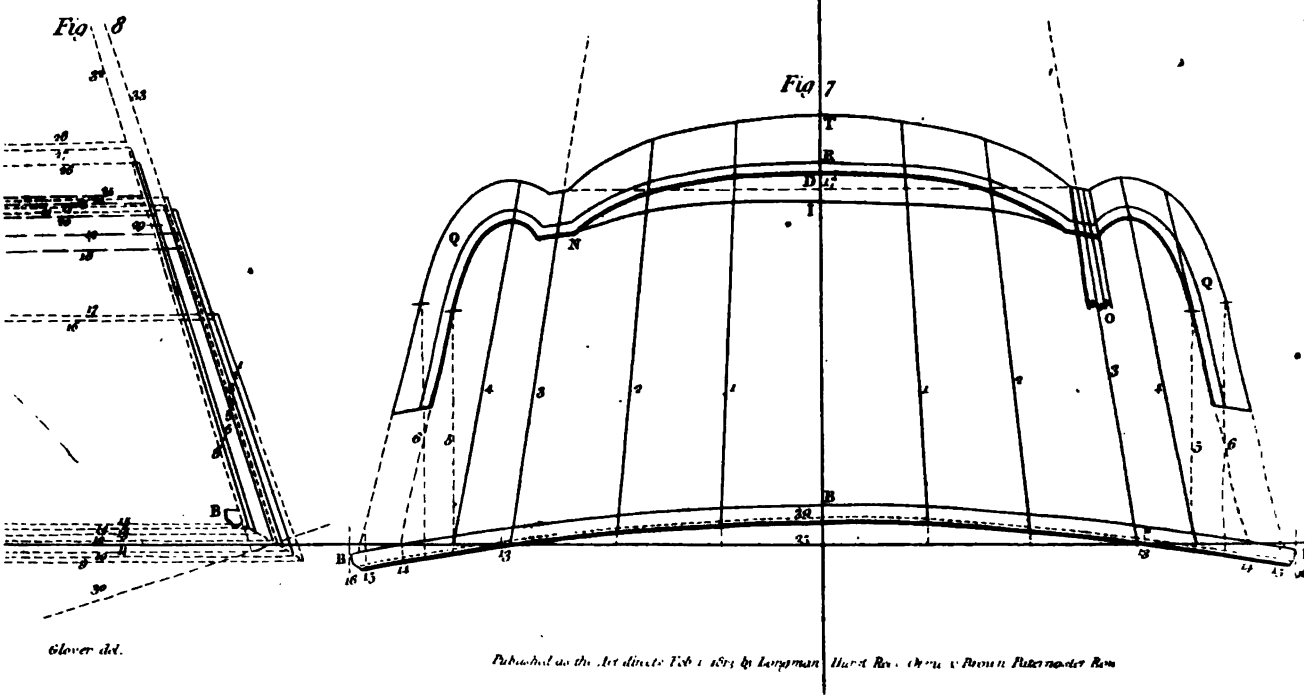


Fig 8

Fig 7

Glover del.

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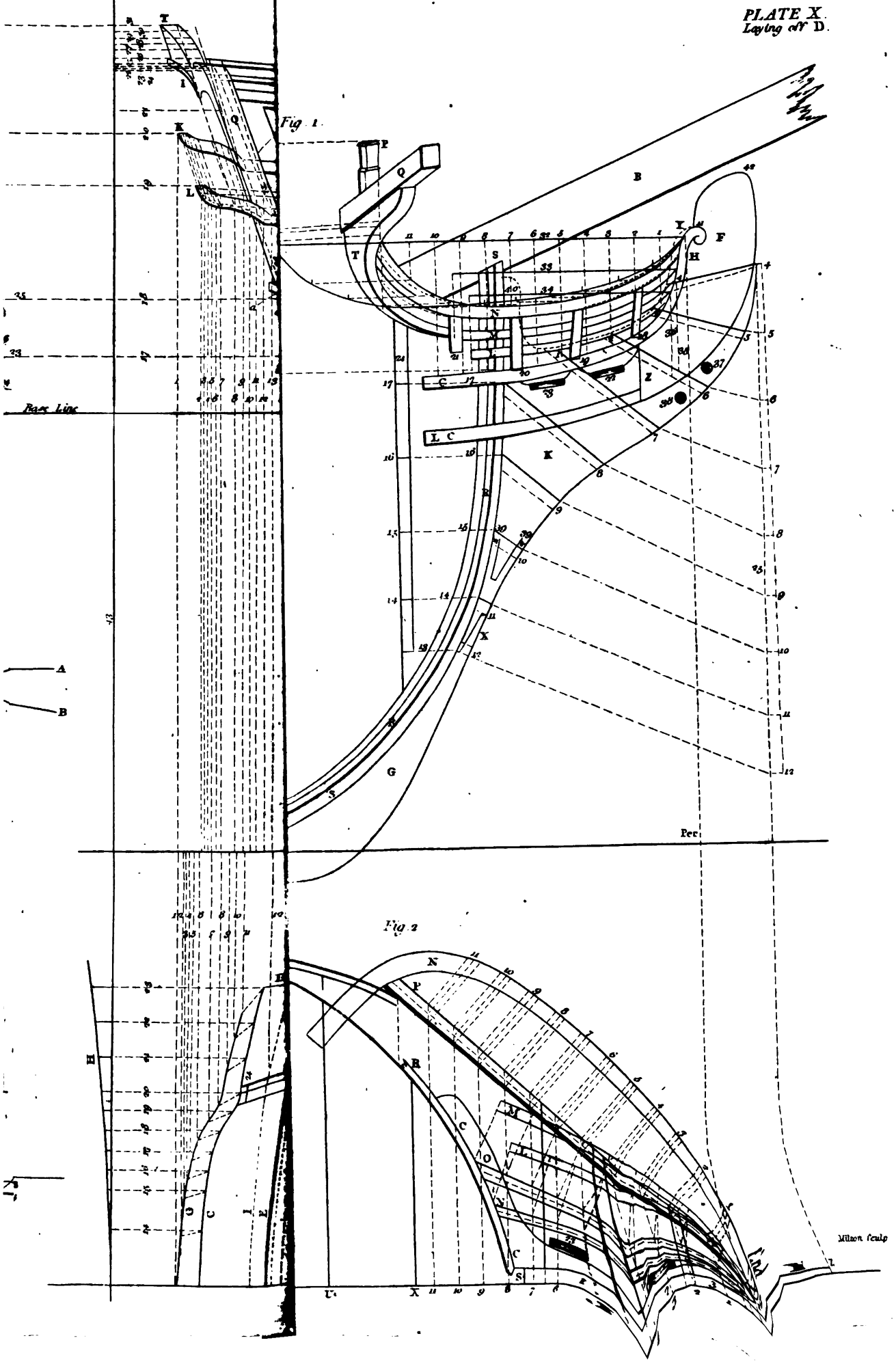
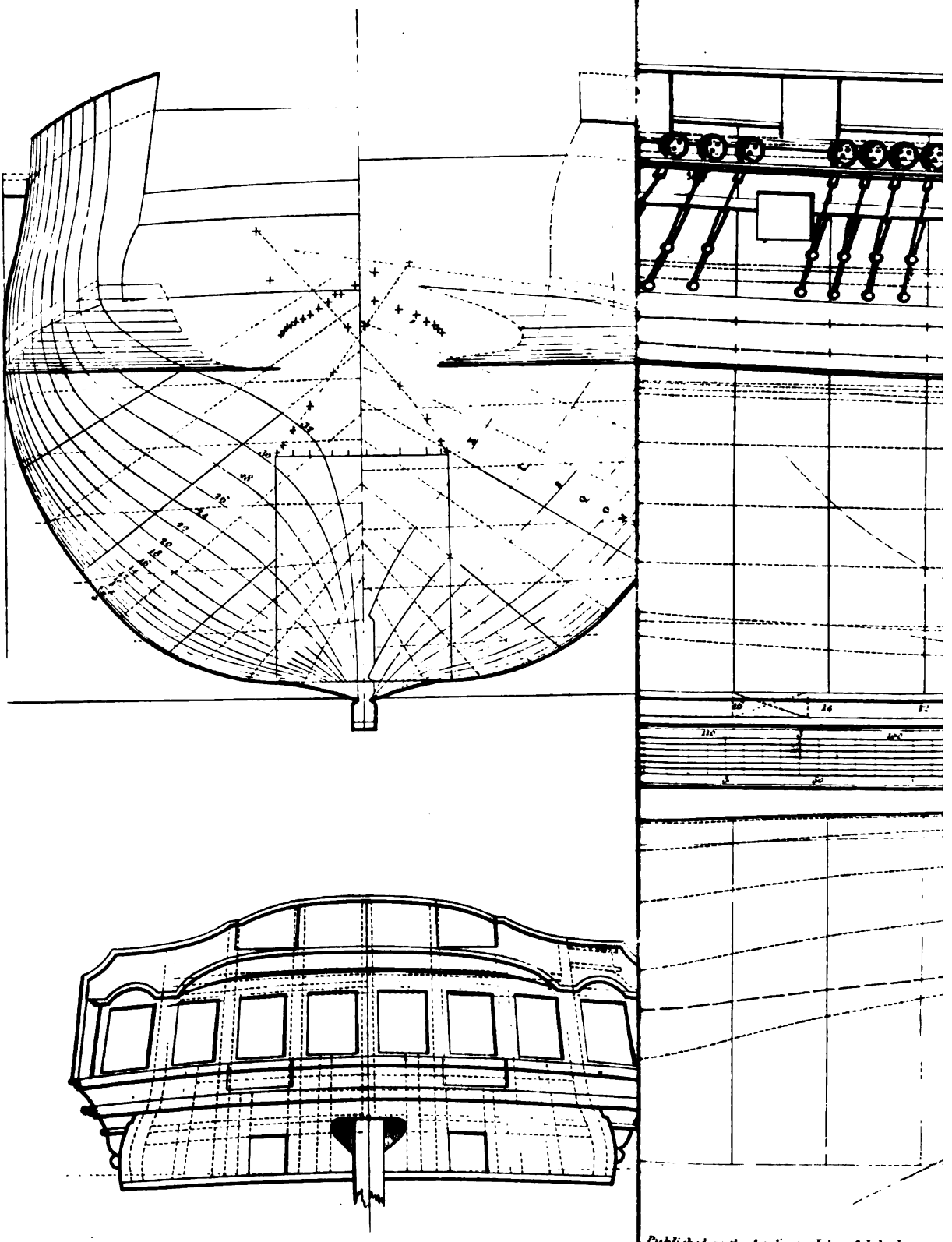
PLATE X.
Laying off D.





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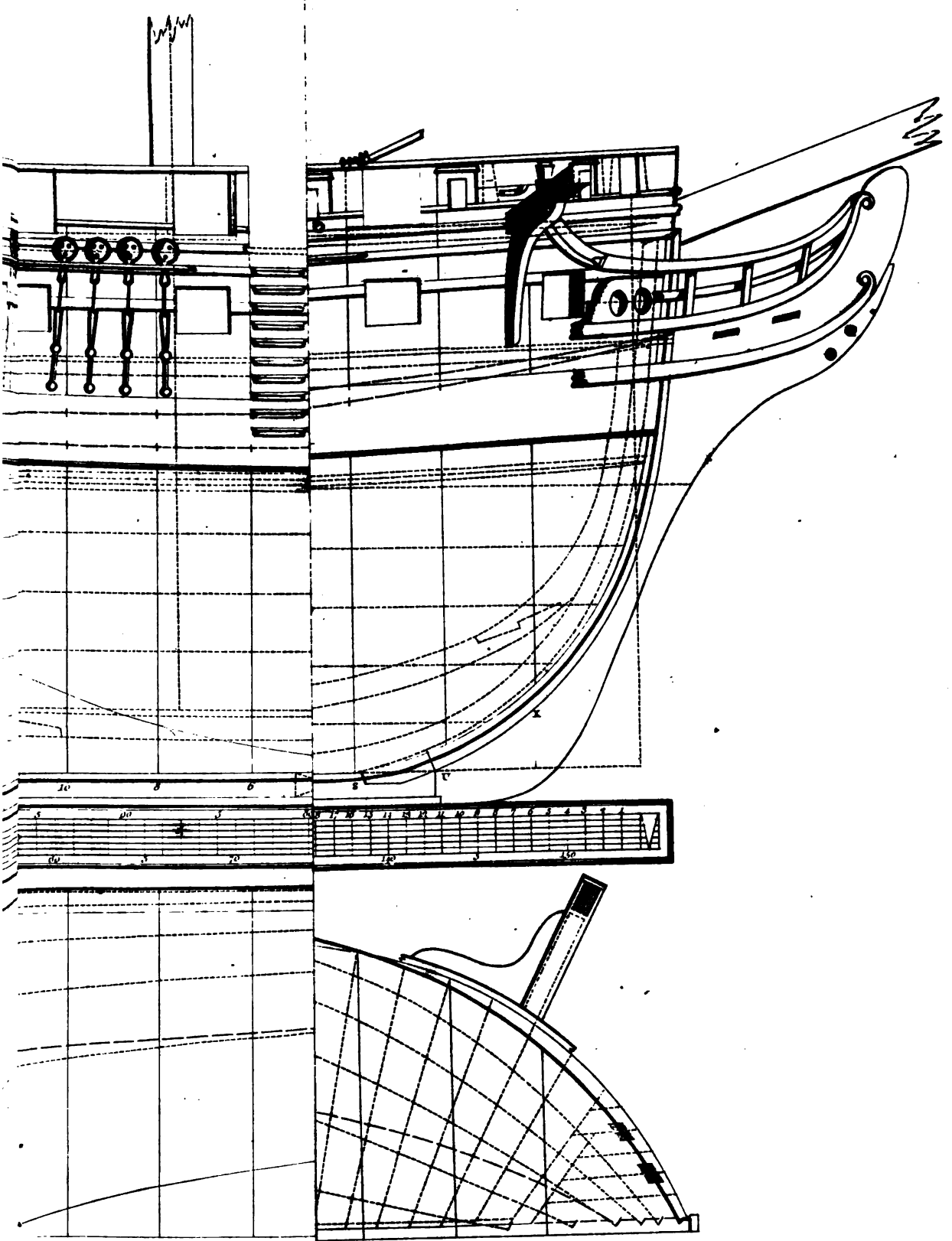
I. Glover del.



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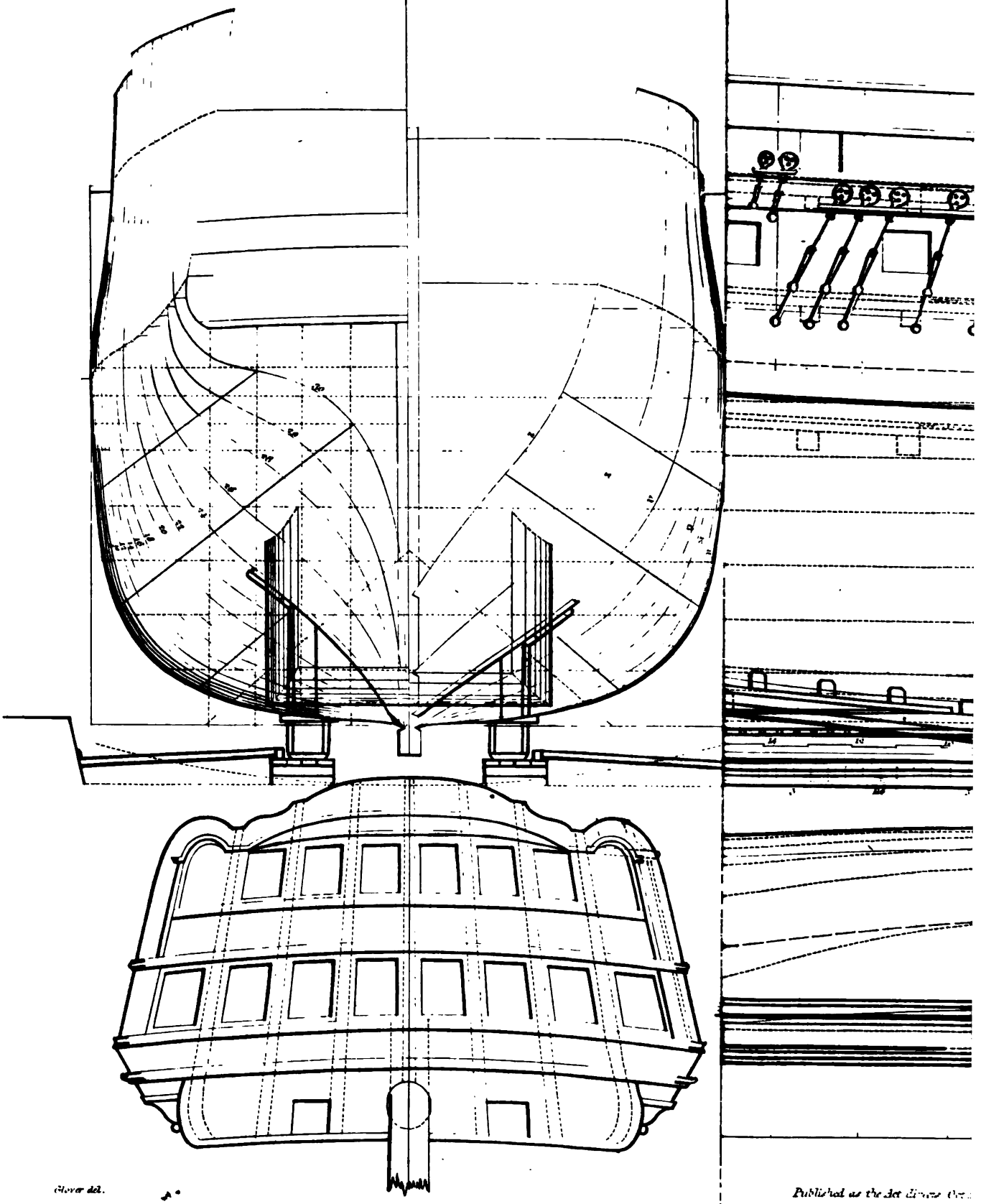

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PLATE XII.

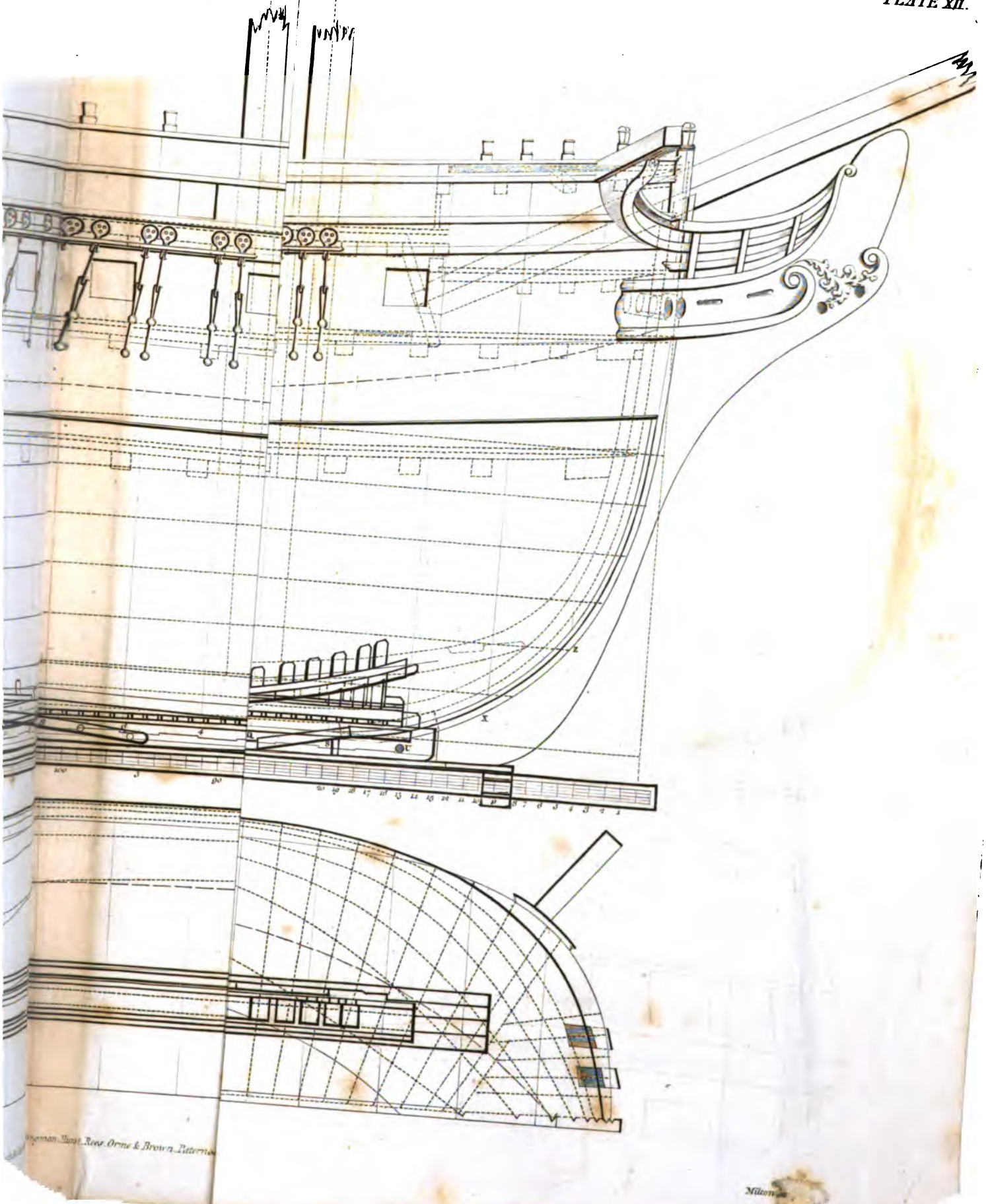

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Fig. 1

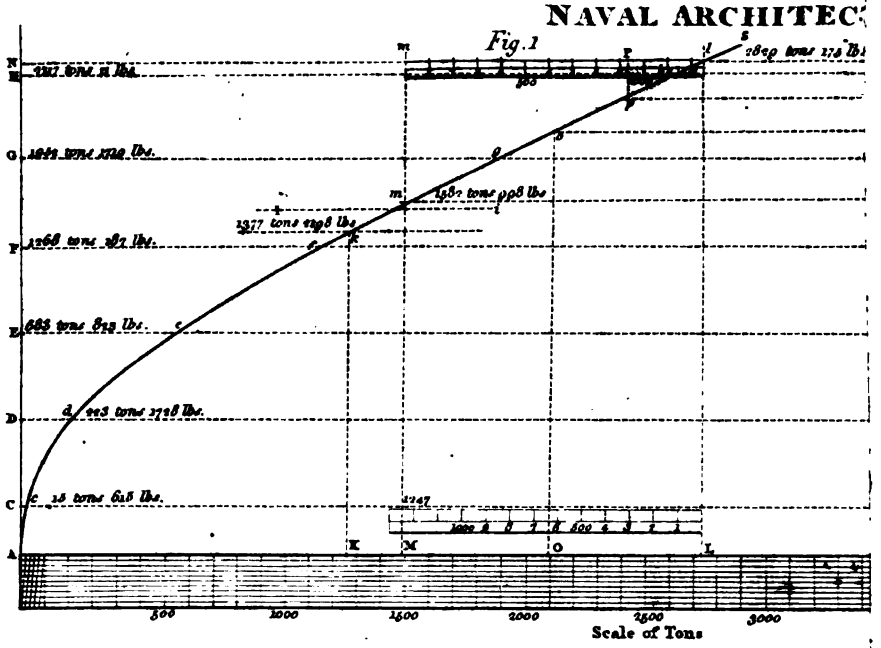


Fig. 2

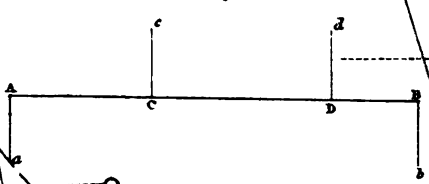
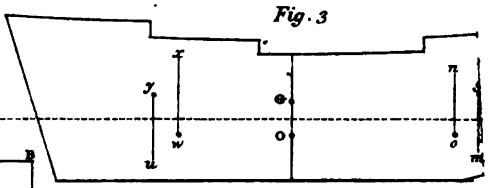


Fig. 3



WHOLE-MOULDING

Fig. 4

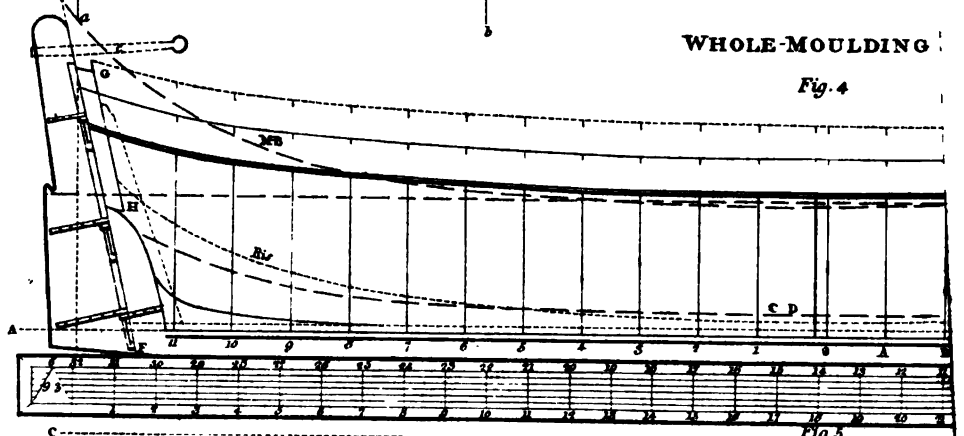


Fig. 5

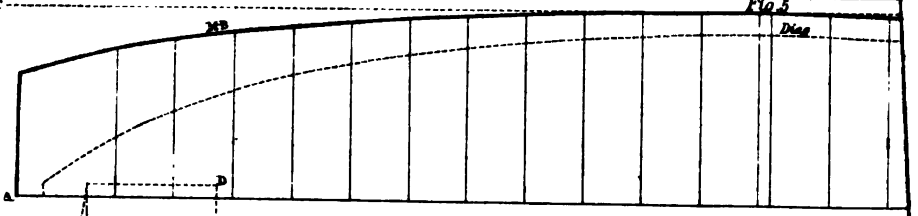


Fig. 6

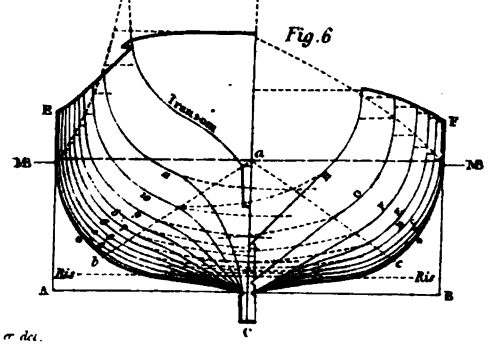
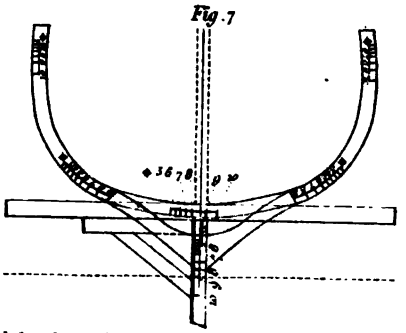


Fig. 7



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